JVC

SERVICE MANUAL

VIDEO CASSETTE RECORDER

BR-S522E/BR-S525E



— BR-S522E —



— BR-S525E —

S-VHS 625 VHS PAL S-VHS C 625 VHS PAL Hi-Fi

SPECIFICATIONS *(The specifications shown pertain specifically to the model BR-S525E)*

GENERAL

Format	:	VHS/S-VHS Europe standard
Power consumption	:	120 W
Power requirement	:	AC 110 – 127 V/220 – 240 V∿, 50/60 Hz
Dimensions	:	42.9 (W) X 18.8 (H) X 56.5 (D) cm
Weight	:	23 kg
Operating temperature	:	5°C to 40°C
Storage temperature	:	–20°C to 60°C
Tape speed	:	23.39 mm/sec
Playback time	:	Max. 180 min. with JVC SE-180/E-180
Fast forward/ Rewind time	:	Less than 2.5 min. for 180 min. tape

VIDEO

Playback	:	Rotary two-head helical scanning system
Luminance	:	FM recording
Colour signal	:	Phase shift, converted sub-carrier direct recording
Video signal system	:	PAL-type colour signal/PAL-type Y/C signal
Output		
Line	:	1.0 Vp-p, 75 ohms, unbalanced
Y/C 443	:	Y: 1.0 Vp-p, 75 ohms, unbalanced C: 0.3 Vp-p, 75 ohms, unbalanced (Burst)
Signal-to-noise ratio	:	More than 46 dB (S-VHS) (With normal heads, VIDEO OUT select switch : "NORM", DNR : "OFF")
Improvement by DNR	:	Luminance : 5.0 dB (max.) Chroma AM : 10.0 dB (max.) PM : 9.5 dB (max.)
		(When the S/N ratio of the input signal is around 40 dB, the S/N ratio is improved by the levels shown above.)
Horizontal resolution	:	More than 400 lines (S-VHS) More than 250 lines (VHS)
Reference video input		
Black burst	:	0.45 Vp-p, 75 ohms, unbalanced
or		
Composite video (colour bar)	:	1.0 Vp-p, 75 ohms, unbalanced (loop-through with 75-ohm terminating switch)

AUDIO

Output		
Line	:	–6/0/+4 dBs, Low impedance, balanced (Hi-Fi/Normal)
Monitor	:	–6 dBs, Low impedance, unbalanced
Phones	:	∞ to –17 dBs, 8 ohms
Signal-to-noise ratio	:	More than 43 dB (NR-off, Normal at 3% distortion)
Dynamic range	:	More than 87 dB (Hi-Fi)
Frequency response	:	20 to 20,000 Hz (Hi-Fi) 40 to 12,000 Hz (Normal)
Wow & flutter	:	Less than 0.005% WRMS (Hi-Fi) Less than 0.3% RMS (Normal)

TIME CODE

Output	:	0 dB ± 3 dBs, Low impedance, unbalanced

CONNECTORS

Video		
Line output	:	BNC-type connectors
Y/C 443 output	:	7-pin connectors
Monitor	:	BNC-type connector
Audio		
Hi-Fi output	:	XLR connectors
Normal output	:	XLR connectors
Monitor	:	RCA connector
Remote control	:	9-pin connector
TBC remote	:	15-pin connector

Design and specifications subject to change without notice.

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No. 9273
August 1993

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COMPARISON TABLE OF DIFFERENT PARTS & FUNCTION BY MODEL

	ITEM	BR-S525E	BR-S522E
Functions	Variable tracking system	○ (Yes)	× (No)
Options	TIME BASE CORRECTOR : SA-T22E	○ (Yes)	△ (Option)
	DNR : SA-N22W (E)	○ (Yes)	△ (Option)
	45PIN I/F : SA-K28E	△* (Option)	△ (Option)
	RS-232C I/F : SA-K27E	△* (Option)	△ (Option)
	RACK MOUNT ADAPTOR : SA-K63EB	△ (Option)	△ (Option)
	U-VCR Y/C OUT : SA-E92E	△ (Option)	△ (Option)
	TIME CODE G/R : SA-R22E	△ (Option)	△ (Option)
Cabinet parts	CASSETTE PANEL	PRD10229L	PRD10229K
	OPERATION PANEL	PRD10259F-05	PRD10259E-05
	RAITING LABEL	PRD30085-26-18	PRD30085-16-18
	SEARCH JOG CONTROL ASSY	PGS20933A	PGS20128H-02
	SUB PANEL (A)	PRD30736-04-05	PRD30736-02-05
	REAR PANEL (D)	PGZ01698	PRD43424-01-03
Mechanism parts	DRUM ASSY	PDV2307A	PDV2273E
	INERTIA ROLLER (S)	PGZ01667-04	PGZ01667
	INERTIA ROLLER (T)	PGZ01667-03	PGZ01667-02
	PINCH ROLLER ARM ASSY	PRD43387C	PRD43387A-01
	NOISE SHUTTER	PRD43901-01-02	× (No)
Packing	INSTRUCTIONS	PGD30002-301-01	PGD30002-299-01
	PACKING CASE	PRD20370-12	PRD20370-08

○=STANDARD, △=OPTION, ×=EXCLUDE

*This option unit can't control of the VT system.

	ITEM	BR-S525E	BR-S522E
Board assemblies *1	01 MOTHER-1	PRK10149E	PRK10113C
	02 MOTHER-2	PRK10111E	PRK10111C
	04 SYSCON MOTHER	PGE20348B	PGE20348A
	10 R/P Y	PRK20120E	PRK20120D
	11 R/P COLOR	PRK20209B	PRK20126B
	12 R/P COLOR 2	PRK20127B	PRK20127A
	15 PRE AMP	PRK30089A	PRK30072A
	16 R/P ADJ	PGE20351F	PGE20351D
	17 Y COMB	PRK20223A	PRK20125B
	19 OUTPUT	PRK20124D	PRK20124B
	21 AUDIO-1	PRK10060F	PRK10060D
	30 D/C SERVO	PRK10116D	PRK10116F
	31 M.CTL/R.SERVO	PRK10059C	PRK10059B
	40 SYSCON	PGE10152D	PGE10152B
	41 AVM/OS	PRK20089D	PRK20089B
	42 OPERATION CPU BOARD	PRK10117H1	PRK10117G1
	43 OPERATION KEY-1 BOARD	PRK10117F2	PRK10117C2
	44 OPERATION KEY-2 BOARD	PRK10117F3	PRK10117C3
	50 SEARCH PRE	PRK20171C	× (No)
	51 VARIABLE TRACKING (AT)	PRK10087A	× (No)
	52 SENSOR	PRK30090A	× (No)
	63 DNR	PRK20086A	△ (Option)
	60 TBC-1	PRK10055B	△ (Option)
	61 TBC-2	PRK10110C	△ (Option)
	62 TBC-3	PRK10070B	△ (Option)
	74 REAR-4	PRK20135B	△ (Option)

△=OPTION, ×=EXCLUDE

Note :
**1 Branch numbers of parts numbers are omitted.*

Important Safety Precautions

Prior to shipment from the factory, JVC products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

● Precautions during Servicing

1. Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product. When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.

2. Parts identified by the ⚠ symbol and shaded (▒) parts are critical for safety.
   Replace only with specified part numbers.
   Note: Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.

3. Fuse replacement caution notice.
   Caution for continued protection against fire hazard.
   Replace only with same type and rated fuse(s) as specified.

4. Use specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads

5. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape
   2) PVC tubing
   3) Spacers
   4) Insulation sheets for transistors
   5) Barrier

6. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely about the terminals before soldering.

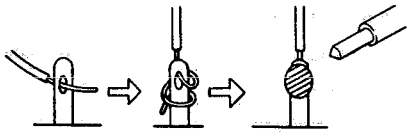


Fig. 1

7. Observe that wires do not contact heat producing parts (heat-sinks, oxide metal film resistors, fusible resistors, etc.)

8. Check that replaced wires do not contact sharp edged or pointed parts.

9. When a power cord has been replaced, check that 10—15 kg of force in any direction will not loosen it.

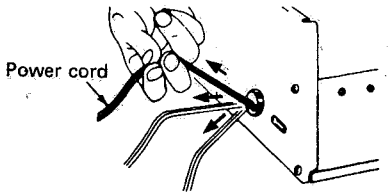


Fig. 2

10. Also check areas surrounding repaired locations.

11. Products using cathode ray tubes (CRTs)
    In regard to such products, the cathode ray tubes themselves, the high voltage circuits, and related circuits are specified for compliance with recognized codes pertaining to X-ray emission. Consequently, when servicing these products, replace the cathode ray tubes and other parts with only the specified parts. Under no circumstances attempt to modify these circuits. Unauthorized modification can increase the high voltage value and cause X-ray emission from the cathode ray tube.

12. Crimp type wire connector
    In such cases as when replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, if replacing the connectors is unavoidable, in order to prevent safety hazards, perform carefully and precisely according to the following steps.

    1) **Connector part number** : E03830-001
    2) **Required tool** : Connector crimping tool of the proper type which will not damage insulated parts.
    3) **Replacement procedure**
       (1) Remove the old connector by cutting the wires at a point close to the connector.
       Important : Do not reuse a connector (discard it).

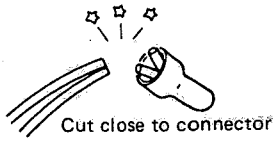


Fig. 3

(2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.

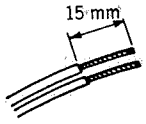


Fig. 4

(3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.

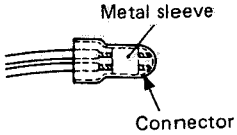


Fig. 5

(4) As shown in Fig. 6, use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.

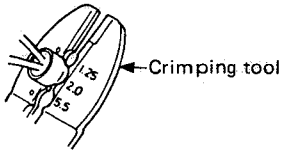


Fig. 6

(5) Check the four points noted in Fig. 7.

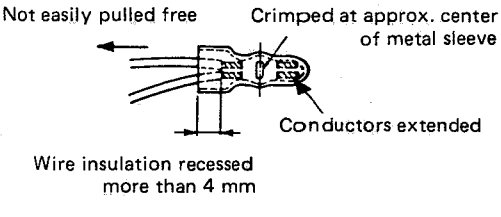


Fig. 7

● Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions, Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

1. Insulation resistance test

Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

2. Dielectric strength test

Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

3. Clearance distance

When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See table 1 below.

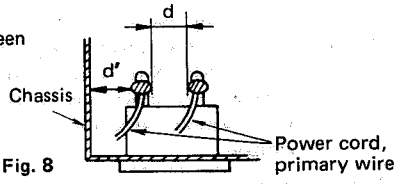


Fig. 8

4. Leakage current test

Confirm specified or lower leakage current between earth ground/power cord plug prongs and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).

Measuring Method: (Power ON)

Insert load Z between earth ground/power cord plug prongs and externally exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See figure 9 and following table 2.

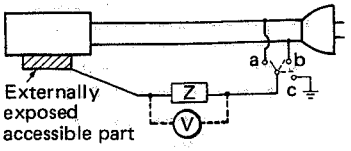


Fig. 9

5. Grounding (Class I model only)

Confirm specified or lower grounding impedance between earth pin in AC inlet and externally exposed accessible parts (Video in, Video out, Audio in, Audio out or Fixing screw etc.).

Measuring Method:

Connect milli ohm meter between earth pin in AC inlet and exposed accessible parts. See figure 10 and grounding specifications.

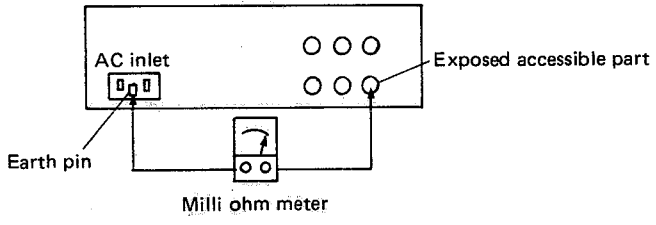


Fig. 10

Grounding Specifications

Region	Grounding Impedance (Z)
USA & Canada	Z ≦ 0.1 ohm
Europe & Australia	Z ≦ 0.5 ohm

AC Line Voltage	Region	Insulation Resistance (R)	Dielectric Strength	Clearance Distance (d), (d')
100 V	Japan	R≧1 MΩ/500 V DC	AC 1 kV 1 minute	d, d' ≧ 3 mm
100 to 240 V			AC 1.5 kV 1 minute	d, d' ≧ 4 mm
110 to 130 V	USA & Canada	—	AC 900 V 1 minute	d, d' ≧ 3.2 mm
110 to 130 V 200 to 240 V	Europe & Australia	R≧10 MΩ /500 V DC	AC 3 kV 1 minute (Class II) AC 1.5 kV 1 minute (Class I)	d ≧ 4 mm d' ≧ 8 mm (Power cord) d' ≧ 6 mm (Primary wire)

Table 1 Specifications for each region

AC Line Voltage	Region	Load Z	Leakage Current (i)	a, b, c
100 V	Japan	1 kΩ	i ≦ 1 mA rms	Exposed accessible parts
110 to 130 V	USA & Canada	0.15 μF, 1.5 kΩ	i ≦ 0.5 mA rms	Exposed accessible parts
110 to 130 V 220 to 240 V	Europe & Australia	2 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Antenna earth terminals
		50 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Other terminals

Table 2 Leakage current specifications for each region

Note: These tables are unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

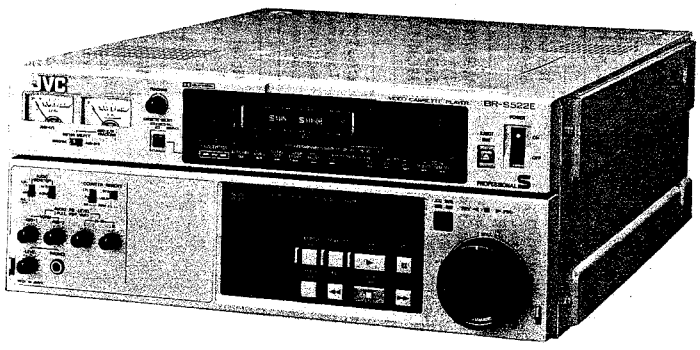
INSTRUCTIONS

JVC

BR-S522E

VIDEO CASSETTE PLAYER
VIDEOKASSETTENPLAYER
LECTEUR DE CASSETTE VIDEO

S-VHS VHS PAL 625 Hi-Fi



PGD 30002-299

SAFETY PRECAUTIONS

Warning Notice
FOR YOUR SAFETY (Australia)

1. Insert this plug only into effectively earthed three-pin power outlet.
2. If any doubt exists regarding the earthing, consult a qualified electrician.
3. Extension cord, if used, must be three-core correctly wired.

IMPORTANT (in the United Kingdom)
Mains Supply (AC 240 V~)
WARNING - THIS APPARATUS MUST BE EARTHED

The wires in this mains lead are coloured in accordance with the following code;

GREEN-and-YELLOW:	EARTH
BLUE:	NEUTRAL
BROWN:	LINE

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows.
The wire which is coloured GREEN-AND-YELLOW must be connected to the terminal in the plug which is marked with the letter E or by the safety earth symbol ⏚ or coloured GREEN or GREEN-AND-YELLOW. The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or which is coloured BLACK. The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.

POWER SYSTEM

Connection to the mains supply
The operating voltage of this set is preset to 220 – 240 V~ at the factory.
Before connecting to mains, check that the voltage selector on the rear panel is set to the same voltage as your local mains supply.

Adapting to local power line
This set operates on 110 – 127 V/220 – 240 V~ AC, 50/60 Hz.
If the preset voltage is different from the power line voltage in your area, reset the voltage selector by inserting a screwdriver into the slot of the voltage selector and turning it until the correct voltage is displayed.

This unit is produced to comply with Directives 76/889/EEC, 82/499/EEC, 87/308/EEC, and IEC Publ.65.

WARNING:
TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION
To prevent electric shock, do not open the cabinet. No user serviceable parts inside. Refer servicing to qualified service personnel.

Note:
The rating plate and the safety caution are on the rear of the unit.

WARNING:
It should be noted that it may be unlawful to re-record pre-recorded tapes, records, or discs without the consent of the owner of copyright in the sound or video recording, broadcast, or cable programme and in any literary, dramatic, musical, or artistic work embodied therein.

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HOW TO USE THIS MANUAL

This manual introduces you to the BR-S522E S-VHS Player and shows you how to make the most of its many advanced features. Because the manual is written for the person who has some experience in videotape recording and is familiar with the terms and techniques described, explanations and definitions are kept to a minimum.

Also, some functions are available only when the corresponding optional boards are plugged in. Whenever these functions are referred to in the text, it is assumed that the corresponding boards have been installed.

- TBC functions are available only when the optional SA-T22E Time Base Corrector boards are installed.
- Component Y/R-Y/B-Y outputs are available only when the optional SA-T22E Time Base Corrector boards and accompanying component output connector board are installed.
- TC functions are available only when the optional SA-R22E Time Code Reader/Generator board is installed.
- 45-Pin parallel interface is possible only when the optional SA-K28E Interface board is installed.
- RS-232C interface is possible only when the optional SA-K27E Interface board is installed.
- Y/C686/924 Output is available only when the optional SA-E92E Output board is installed.
- DNR function is available only when the optional SA-N22W Digital Noise Reducer is plugged into the SA-T22E.

IMPORTANT

Instructions for all operations are based on the setup menu's initial settings unless otherwise specified. We recommend that you familiarize yourself with the available settings before operating the VCR. For more information, please refer to "Setup Menu", ☞ p.19

PRECAUTIONS

VCR

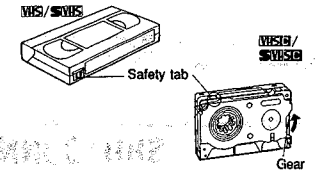
- Avoid using the unit in places subject to the following conditions:
  - extreme heat, cold, or humidity,
  - dust,
  - vibrations, and
  - poor ventilation.
- Be careful of moisture condensation.
  Do not use the unit immediately after moving it from a cold place to a warm place. The water vapor in warm air will condense on the still-cold video head drum and tape guides and may cause damage to the tape and the unit.
- Handle the unit carefully.
  - Do not block the ventilation openings.
  - Do not place anything heavy on the unit.
  - Do not place anything which might spill on the top cover of the unit.
  - Use in horizontal (flat) position only.
- During transportation,
  - Avoid violent shocks to the unit during packing and transportation.
  - Before packing, be sure to remove the cassette from the unit.

VIDEO CASSETTES

This player uses S-VHS, S-VHS-C, VHS, and VHS-C cassettes. Only cassettes recorded in the standard play (SP) mode can be played on this player.

S-VHS: SE-180 for 180 minutes, SE-120 for 120 minutes, SE-60 for 60 minutes, and SE-30 for 30 minutes of playback.
S-VHS-C: SE-C30 for 30 minutes of playback.
VHS: E-180 for 180 minutes, E-120 for 120 minutes, E-90 for 90 minutes, E-60 for 60 minutes, and E-30 for 30 minutes of playback.
VHS-C: EC-30 for 30 minutes of playback.

- Before loading a compact cassette, be sure the tape is not slack. If there is any slack, turn the gear on the cassette in the direction of the arrow to take up the slack.
- Avoid exposing the cassettes to direct sunlight. Keep them away from heaters.
- Avoid extreme humidity, violent vibrations or shocks, strong magnetic fields (near a motor, transformer or magnet), and dusty places.
- Place the cassettes in cassette cases and position vertically.



FEATURES

Newly-developed full-size/compact-compatible cassette loading mechanism

Similar in principle to the loading mechanisms employed in M-II, 3/4-inch, and other high-performance professional equipment, the BR-S522E's newly-developed cassette loading mechanism can directly accept both regular and C-sized S-VHS cassettes*. The tape transport system has also been improved to provide faster search speeds and more stable transport. C-size S-VHS cassettes are already popular in image acquisition — as exemplified by the success of JVC's GY-X1 S-VHS-C camcorder — and are expected to assume a more important role in distribution, on-air transmission, and other applications.

Open-ended system architecture with plug-in TC and TBC capability

To better meet the requirements of different edit suites, the BR-S522E has been designed to permit open-ended system expansion. Built-in interfaces are provided for 9-pin RS-422A serial remote, COMPOSITE OUT, and Y/C443 OUT. Further system expansion and customisation is facilitated by a variety of optional "snap-in" boards. These include a time code reader/generator (LTC/VITC), a TBC with field memory and COMPONENT OUT circuit, as well as a 45-pin remote control board, an RS-232C remote control board for connection to a computer, and a Y/C686/924 OUT processor board. Since these circuit boards can be slotted directly into the BR-S522E, it can easily be configured to fit into any existing system without the need for expensive alterations or additional space.

High-quality pictures

S-VHS picture quality* has been improved still further with the addition of advanced circuitry including a digital DOC. Moreover, this high picture quality is maintained through multi-generational dubbing; even after as many as five generations, the results match those available from 3/4-inch equipment. For improved playback picture performance, noise reduction circuitry and switching noise masking are provided.

* Technology licensed by **FAROUDJA** Laboratories.
* Employs chroma-enhancing technology co-developed by JVC and **FAROUDJA** Laboratories and modified for S-VHS applications.

* Since both regular and C-size cassettes can be directly inserted, do not use an cassette adaptor.

Fully-equipped for high-performance professional edit feeding

The BR-S522E is equipped with a comprehensive set of studio level feeder functions such as colour frame servo, auto H-Phase lock, and capstan bump. Search/jog dials are also provided for fast and accurate location of edit points with maximum visual search speed increased to 32x.

Menu Display and On-Screen Mode Check

For easy set-up and customisation, the BR-S522E features a menu display which allows simple dial setting and switching of most basic functions while referring to indications on the counter display or on-screen. As a result, many seldom-used external switches have been eliminated. Even functions normally requiring DIP switch resetting can be switched directly via the menu display. On-screen mode check and warning indications are also provided.

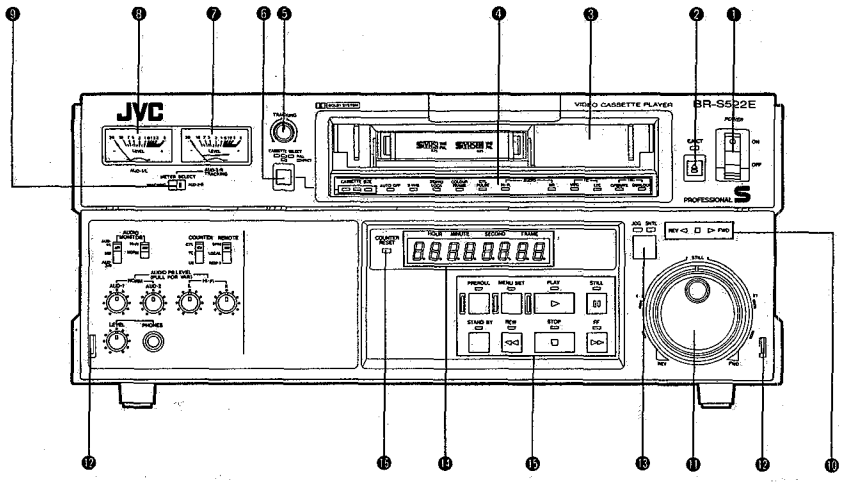
Other features

- Hi-Fi Stereo system with a dynamic range of more than 87 dB
- Two-channel normal audio with switchable Dolby B* noise reduction
- Independent audio playback level controls for all four channels
- XLR balanced audio connectors
- Two level meters switchable between Hi-Fi and Normal audio; the right meter can also function as a tracking meter
- 8-Digit time counter for indication of tape position in either TC or CTL mode
- Wide-aspect (16:9) ID playback capability
- External sync input for reference video
- Y-Frequency response control
- Tiltable control panel
- Heavy-duty full-loading mechanism with high-speed chassis
- Self-diagnostic warning system
- Front-access test points
- Automatic head cleaning mechanism
- 9999-hour meter switchable from tape counter
- Headphone jack with adjustable level output
- 19-inch EIA rack mounting
- 4-Field sequence colour frame sevo

* Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation. "DOLBY" and the double-D symbol ⧈ are trademarks of Dolby Laboratories Licensing Corporation.

CONTROLS AND CONNECTORS

FRONT PANEL



❶ POWER switch
- When power is ON, the time counter and level meters will be illuminated.

❷ EJECT button with LED indicator
- Ejects the cassette (from any mode).
- The indicator lights while the cassette is being ejected.

❸ *Cassette loading slot*
- Accepts either a compact or full-size S-VHS/VHS cassette according to the type selected with the CASSETTE SELECT button ❻.

❹ *LED indicators*

CASSETTE SIZE indicators
- Indicate whether the player is in the Full or Compact mode. When all three indicators are blinking, the player is ready to accept a full-size cassette. When only the center indicator is blinking, the player is ready to accept a compact cassette. Press the CASSETTE SELECT button ❻ to change modes. When a cassette is inserted, the blinking will stop and the corresponding indicator(s) will remain continuously lit.

AUTO OFF indicator
- Lights when the unit malfunctions. All controls are disabled.

S-VHS indicator
- Lights when an S-VHS or S-VHS-C cassette is inserted with the unit in the S-VHS mode, or when playing back a blank part of the tape.

TBC indicators
(with optional SA-T22E TBC installed)

OPERATE: Lights when the TBC is in operation. A timebase-corrected signal is output.

GENLOCK: Lights when the TBC is in operation and locked to the external reference signal.

SERVO indicators

SERVO LOCK: Lights when the capstan and drum servos are locked to the reference signal.

CTL PULSE: Lights during playback of a tape with no control pulse recorded.

COLOUR FRAME: Lights when the capstan and drum servos are locked to PAL 4-field colour frame.

AUDIO indicators

Hi-Fi: Lights when playing back Hi-Fi-recorded tapes.

NR: Lights when the Dolby B* noise reduction circuit is set to ON (via menu setting).

TC (TIME CODE) indicators
(with optional SA-R22E TC [time code] generator/reader installed)

LTC: Lights green when LTC-recorded tapes are played back with the normal audio-2 track set for LTC use (via menu setting). If LTC is not picked up, the indicator lights orange. This indicator may also light when normal-audio-recorded tapes are played back.

VITC: Lights when VITC-recorded tapes are played back.

❺ TRACKING control
- Adjusts tracking. Turn in either direction until the tracking meter deflects all the way to the right.
- Normally leave in the center click-stop position.

❻ CASSETTE SELECT button
- Press to select FULL or COMPACT. The corresponding indicator(s) will light. (Cassette size selection is inhibited when menu item #332 is set to "01 – ON", ☞ p.23.)

❼ AUD-2/R (TRACKING) level meter
- Indicates the audio level of the normal audio-2 or Hi-Fi right-channel signal during playback.
- Functions as a tracking meter during playback when the METER SELECT switch ❾ is set to TRACKING.

❽ AUD-1/L level meter
- Indicates the audio level of the normal audio-1 or Hi-Fi left-channel signal during playback.

❾ METER SELECT switch
- Switches the AUD-2/R level meter ❼ between audio level and indication.

AUD-2/R: Meter functions as the audio-2/Hi-Fi right-channel level meter.

TRACKING: Meter functions as a tracking meter.

❿ Tape direction indicators
- Indicate the current tape direction.

▷: Forward
□: Still
◁: Reverse

⓫ JOG/SHUTTLE dials
- Dual concentric controls. The outer functions as a Shuttle ring, the inner as a Jog dial. The Jog and Shuttle modes can be entered directly from the Play, Still, FF, REW, or Stop modes.

SHUTTLE ring: Search speed can be varied continuously from 1/30 to 32 times normal (up to 14 times normal with C-size cassettes) in forward or reverse. Set to the center click-stop position to engage the Still mode.

JOG dial: Manual frame-by-frame search in either direction. Tape speed is determined by the speed of dial rotation. Releasing the dial engages the Still mode. Also used in menu setting.

⓬ Control panel lock release buttons
- To tilt the control panel, press these buttons and lift the panel at the same time. The panel can be tilted to 90° and locked at angles of 25°, 50°, and 75°.

⓭ JOG/SHUTTLE button with JOG/SHTL mode indicators
- Instantly re-activates the Shuttle mode with search speed determined by the current dial setting.

⓮ Time counter
- Shows tape time in hours, minutes, seconds, and frames.
- Displays user bits (with optional time code reader installed).
- Displays menu settings and warnings.

⓯ Operation buttons with LED indicators

STILL button
- Displays a still picture when pressed in the Play mode.

PLAY button
- Starts playback.
- Re-starts normal playback when pressed in the Still or Search mode.
- Changes the setting of setup menu items.

PREROLL button
- Prerolls the tape by about 7 seconds. Preroll time is selectable via menu item #320 (☞ p.23).

STAND BY button
- Switches between the Standby-On and Standby-Off modes while the player is in the Stop mode. Standby-On is automatically engaged when the Stop button is pressed.

Standby-On: The tape is loaded and the drum is rotating. The indicator is lit.

Standby-Off: The tape is loaded but tape tension is reduced and the drum does not rotate. The indicator is not lit. Standby-off status is selectable via menu item #310 (☞ p.22).

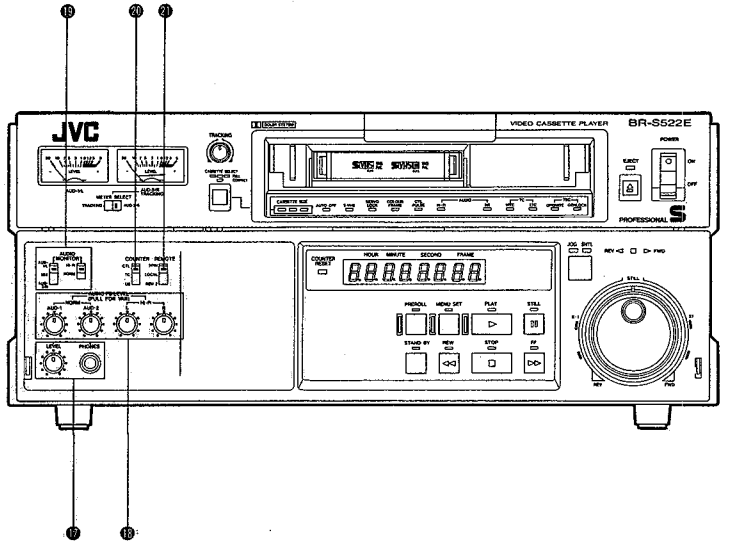
REW button
- Starts rewind when pressed in any mode. Maximum REW speed is selectable via menu item #319 (☞ p.23).

STOP button
- Engages the Stop mode (Standby-On). The tape stops, but remains in the full-loaded position with the drum rotating.
- The STOP and STAND BY indicators will light.

FF button
- Starts fast forward when pressed in any mode. Maximum FF speed is selectable via menu item #319 (☞ p.23).

MENU SET button
- Stores new settings for setup menu items.

⓰ COUNTER RESET button
- Resets the CTL counter to zero.
- The CTL counter will be reset even if this button is pressed in the TC mode.



⑰ PHONES jack/LEVEL control
- Connect a set of headphones to monitor sound playback.
- Adjust output level with the LEVEL control.

⑱ HI-FI L/R and NORM AUD-1/AUD-2 AUDIO PB LEVEL controls
- To separately adjust playback levels for the Hi-Fi left/right-channel signals and the normal (linear) audio-1/2 signals. Pull and turn for adjustment.
- Optimum level is the point where the corresponding meter's peak deflection is "0".

⑲ AUDIO MONITOR select switches
- To select the audio output for the PHONES jack and the AUDIO MONITOR OUT connector.
- The Hi-Fi/NORM switch also switches the audio level meters between Hi-Fi and NORMAL.

Hi-Fi: To monitor the Hi-Fi audio signals.
NORM: To monitor the normal audio signals.
AUD-1/L: To monitor the normal audio-1 or Hi-Fi left-channel signal.
MIX: To monitor the AUD-1/L and AUD-2/R signals together.
AUD-2/R: To monitor the normal audio-2 signal or Hi-Fi right-channel signal.

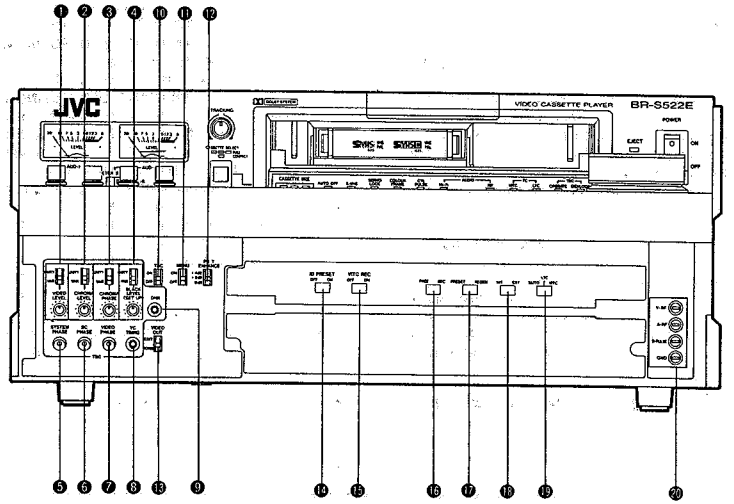
⑳ COUNTER select switch
- To select the time counter display mode with the SA-R22E TC generator/reader installed. If this is not installed, CTL signals are displayed regardless of the switch setting.

CTL: CTL signals are displayed on the time counter.
TC: Time code signals are displayed on the time counter.
UB: User bits are displayed on the time counter.

㉑ REMOTE select switch
- To select between remote and local control of the player.

9-PIN: For remote control via the rear panel 9-pin connector.
LOCAL: For direct control with the player's function buttons.
REM-2: For remote control via the optional 45-pin or RS-232C interface.

FRONT SUB-PANEL



TBC CONTROLS

The controls in this section function when the optional SA-T22E TBC (time base corrector) is installed.

❶ VIDEO LEVEL UNITY/VARIABLE select switch/level control

UNITY: The output signal's video level is the same as the playback signal. Normally set to this position.
VARIABLE: Allows you to adjust the output signal's video level with the VIDEO LEVEL control. Adjustment is possible within ±3 dB.

❷ CHROMA LEVEL UNITY/VARIABLE select switch/level control

UNITY: The output signal's chroma level is the same as the playback signal. Normally set to this position.
VARIABLE: Allows you to adjust the output signal's chroma level with the CHROMA LEVEL control. Adjustment is possible within ±3 dB.

❸ CHROMA PHASE UNITY/VARIABLE select switch/level control

UNITY: The output signal's chroma phase is the same as the playback signal.
VARIABLE: Allows you to adjust the output signal's chroma phase with the CHROMA PHASE control. Adjustment is possible within ±30°.

❹ BLACK LEVEL (SET UP) VARIABLE/UNITY select switch/level control

UNITY: The output signal's setup level is the same as the playback signal.
VARIABLE: Allows you to adjust the output signal's setup level with the BLACK LEVEL (SET UP) control. Adjustment is possible within ±107 mV.

❺ SYSTEM PHASE control
- Adjusts the output signal's horizontal phase with respect to that of the reference input signal. Adjustment is possible within a range of ±3 µsec.

❻ SC PHASE
- Adjusts the output signal's subcarrier phase with respect to that of the reference input signal. Up to 15 rotations are possible with continuous variation over a range of ±180°.

❼ VIDEO PHASE control
- Adjusts the output signal's video phase with respect to the playback signal's H sync. Up to 15 rotations are possible with continuous variation over a range of ±1.5 µsec.

❽ YC TIMING control
- Adjusts the output signal's C signal delay time with reference to the Y signal. Adjustable within ±500 nsec.
- Normally set to "8".

❾ DNR control
- Adjusts digital noise reduction when the SA-N22W DNR board.

⑩ **TBC ON/OFF switch.**
- Set to ON for TBC playback. (During TBC operation, the servo is locked to the reference signal supplied to the EXT REF connector.
- Set to OFF to bypass TBC.

⑪ **MENU ON/OFF switch**
- SET to ON to activate the On-Screen Menu. The counter display will also switch to the Menu Set mode.
- Most basic system setup operations are performed using the Menu.

⑫ **PB Y ENHANCE switch**
- Enhances the luminance signal for a sharper playback picture.

+4 dB: Boosts luminance signal level by 4 dB at 2.5 MHz for maximum picture sharpness.
+2 dB: Boosts luminance signal level by 2 dB at 2.5 MHz for a sharper picture.
0 dB: No effect. The same result is obtained by setting the VIDEO OUT select switch ⑭ to EDIT.

⑭ **VIDEO OUT select switch**
EDIT: Set to this position when using the BR-S522E as a feeder in editing.
NORM: Normally set to this position.

TIME CODE GENERATOR/READER SETTING SWITCHES
(With SA-R22E TC generator/reader installed)

Some controls in this section are associated with TC recording functions only and have no effects on the BR-S522E.

⑮ **ID PRESET ON/OFF switch**
- No effect.

⑯ **VITC REC ON/OFF switch**
- No effect.

⑰ **FREE/REC switch**
- No effect.

⑱ **PRESET/REGEN switch**
PRESET: To output playback time code signal via the TIME CODE OUT terminal.
REGEN: To output time code signal regenerated by the internal TC generator in sync with the playback time code signal. Normally set to this position. (☞ p.24, menu item #404, 405)

⑲ **INT/EXT switch**
- No effect.

⑳ **AUTO/LTC/VITC switch**
- To select the TC reader mode. Select the mode according to the type of reference time code with which the internal TC generator is synchronised in the Regen mode.

AUTO: For tapes with matching VITC and LTC data. Counts time codes in VITC at tape speeds lower than normal, and in LTC at speeds higher than normal. Missing sections and sections at speeds higher/lower than ±10 times normal are interpolated with CTL counts.
LTC: For LTC-only tapes or when editing with LTC data. Counts time codes in CTL at tape speeds lower than normal, and in LTC at speeds higher than normal. Missing sections and sections at speeds higher/lower than ±10 times normal are interpolated with CTL counts.
VITC: For VITC-only tapes or when editing with VITC data. Counts time codes in VITC at tape speeds lower than normal, and in CTL at speeds higher than normal. Missing sections and sections at speeds higher/lower than ±10 times normal are interpolated with CTL counts.

㉑ **Test points**

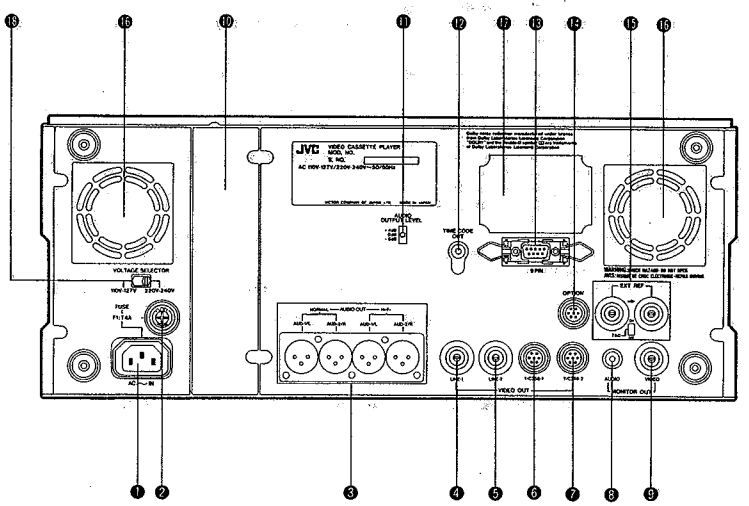
V-RF test point
- Outputs the video head FM signal during playback.
- Can be used for detection of clogged or worn heads.

A-RF test point
- Outputs the Hi-Fi audio FM signal during playback.
- Can be used for detection of clogged or worn heads.

D-PULSE pin
- Connect to the external trigger terminal of an oscilloscope.

GND
- Connect to the ground terminal of an oscilloscope.

REAR PANEL



❶ **AC IN socket**
- Connect to 110 – 120 V or 220 – 240 V AC, 50/60 Hz power outlet.

❷ **Fuse holder**

❸ **Audio output connectors**
AUDIO OUT NORMAL: Normal audio output connectors for Audio-1 and Audio-2.
AUDIO OUT Hi-Fi: Hi-Fi audio output connectors for Left and Right.

❹, ❺ **VIDEO OUT LINE (1, 2) connectors**
- The composite video signal is output from these connectors.

❻, ❼ **VIDEO OUT Y/C443 (1, 2) connectors**
- The Y/C443 signal is output from these connectors.

❽ **AUDIO MONITOR OUT connector**
- The audio signal selected with the AUDIO MONITOR select switches is available at this connector.

❾ **VIDEO MONITOR OUT connector**
- The composite video output signal is available at this connector. On-screen information is also supplied.

❿ **Expansion slot**
- For installation of optional interface (SA-K28E or SA-K27E).

⓫ **AUDIO OUTPUT LEVEL select switch**
- To select -6 dB, 0 dB, or +4 dB according to the input level of connected audio equipment. All four audio channels are switched simultaneously.

⓬ **TIME CODE OUT connector**
- Connect a time code reader to the OUT connector for external time code reading.

⓭ **9-PIN connector**
- Connect to an RS-422 9-pin serial remote control unit or to the RS-422 9-pin connector of a recorder for swap editing.

⓮ **OPTION connector**
- Delivers the Y/C686/924 signal (with optional SA-E92E Output board installed) to the DUB IN connector of 3/4" U-VCR machines. (☞ p.20, menu item #102)

⓯ **EXT REF connectors with 75-ohm terminating switch**
- Supply the reference signal (either black burst signal or composite video) to the left connector and set the 75-ohm terminating switch to ON.
- To output a loop-through signal to another unit, set the 75-ohm terminating switch to OFF.

NOTE:
- When using the SA-T22E, do not use a black-and-white signal or sync signal without burst as the reference signal, otherwise the intended synchronisation will not be obtained.

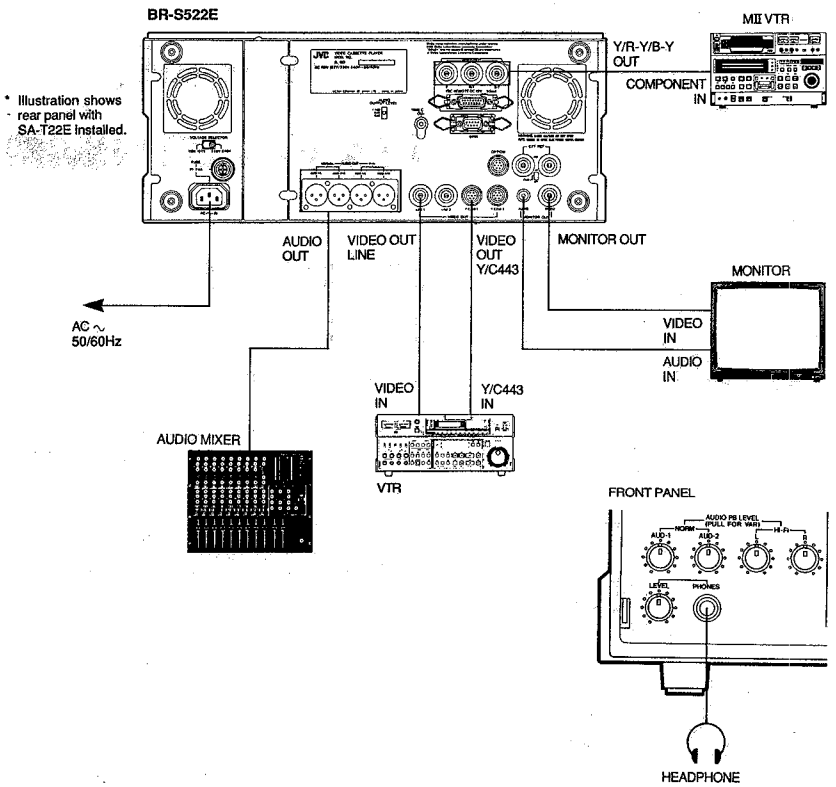
⓰ **Fans**

⓱ **Expansion slot**
For installation of COMPONENT OUT connector board when optional SA-T22E TBC is installed. (☞ p.20, menu item #104)

⓲ **VOLTAGE SELECTOR**
- Select voltage according to your local power supply. (Be sure the POWER is off when setting the voltage.)

CONNECTIONS

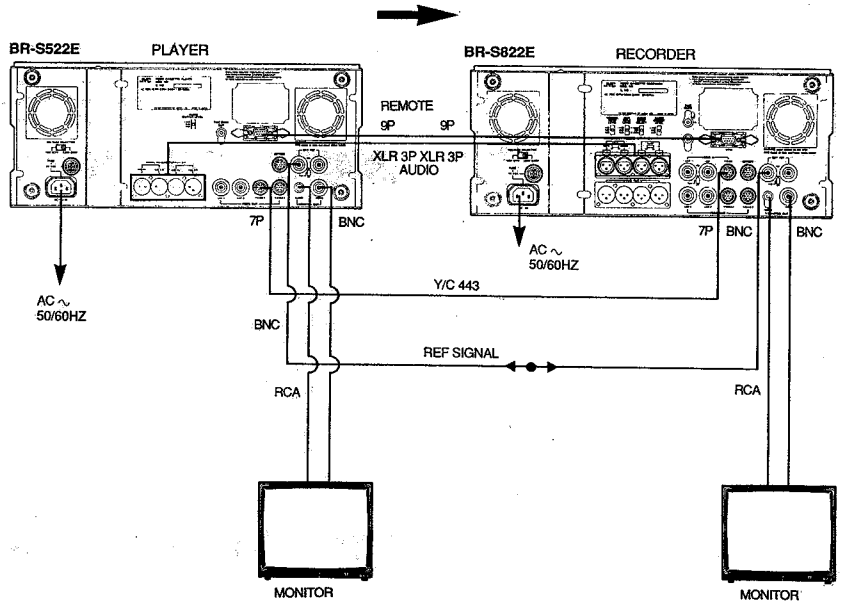
VIDEO/AUDIO CONNECTIONS



NOTES:

- To output the loop-through signal, set the 75-ohm terminating switch to OFF, otherwise set it to ON. (Be sure to terminate the signal at the last of the connected units.)
- On-screen information is output from the VIDEO MONITOR OUT connector only.
- Y/R-Y/B-Y component signals can be output when the optional TBC board SA-T22E is installed. M-II and Betacam component signals are selectable via menu item #104. (☞ p.20)

SWAP EDITING CONNECTIONS



NOTES:

- To avoid distortion of the recorder's playback signal while the player is in the search mode, connect an external sync signal generator.
- To avoid distortion or missing colours caused by unstable source signals, the player's signal should be processed by a TBC. Be sure to use the optional SA-T22E TBC board when using the BR-S522E in this configuration and set the TBC switch to ON.
- For swap editing procedures, refer to the BR-S822E Editing Recorder's instruction manual.

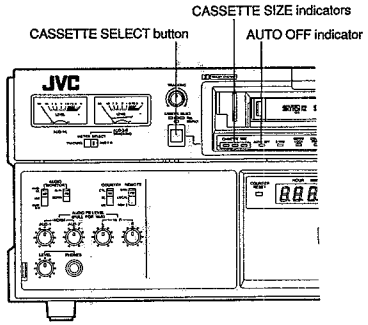
LOADING AND UNLOADING VIDEO CASSETTES

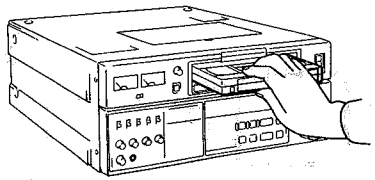
LOADING

1. Switch on the power.
2. Check the AUTO OFF indicator.
   - If this indicator lights, some abnormal condition such as condensation has occurred. All functions except Eject are disabled.
3. Check the CASSETTE SIZE indicators.
   - If you're loading a full-size cassette, be sure that all three indicators are blinking.
   - If you're loading a compact cassette, be sure that only the center indicator is blinking.
   - Press the CASSETTE SELECT button to change modes.
4. Insert a cassette with its label side facing you.
   - The cassette is automatically retracted and loaded.
   - The BR-S522E enters the Stop/Standby-On mode. The STOP and STAND BY indicators will light. In this mode, the tape is fully loaded and the head drum is rotating. The CASSETTE SIZE indicator(s) will stop blinking but remain illuminated.

NOTES:
- Be sure that the CASSETTE SIZE indicator(s) is blinking when inserting a cassette.

5. To cancel the Standby-On mode, press the STAND BY button.
   - The head drum will stop rotating, but the tape remains in the full-loaded position. The STAND BY indicator will go out.
   - As soon as you engage another mode (Play, Rewind, Fast Forward, etc.), the STAND BY indicator will come on again.

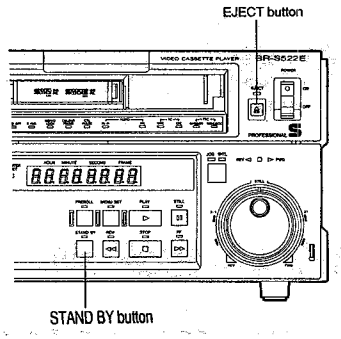




UNLOADING

1. Press EJECT.
   - The cassette is ejected automatically.
   - You can press the EJECT button in any mode.
2. Remove the cassette.

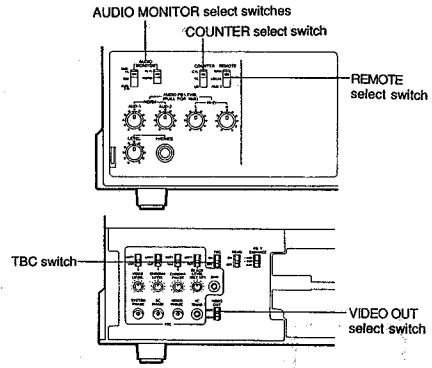
WARNING
- Do not insert fingers or foreign objects into the cassette loading slot as this may result in personal injury or damage to the mechanism.
- Do not try to remove the cassette once automatic loading has started.



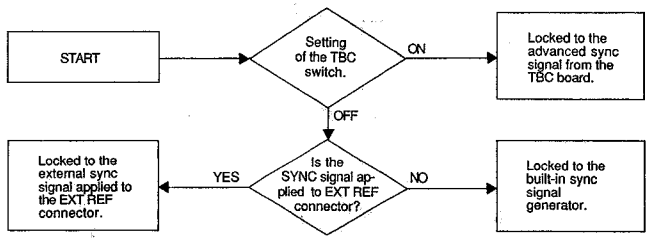
PLAYBACK

PREPARATION

1. Set the AUDIO MONITOR select switches as required. (☞ p.7)
2. Set the COUNTER select switch as required. (☞ p.7)
3. Set the VIDEO OUT select switch as required.
   NOR: for normal playback.
   EDIT: when using the BR-S522E as an edit feeder.
4. Set the REMOTE select switch as required. (☞ p.7)
5. Set the TBC switch to ON if you are using the SA-T22E or an external TBC.



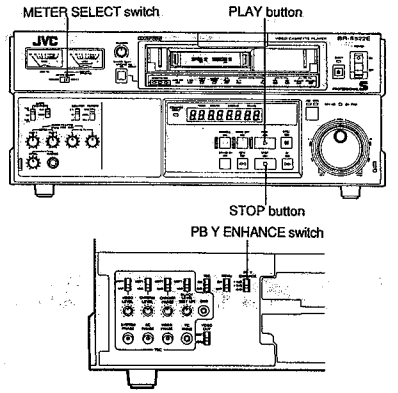
REFERENCE SYNC SIGNALS



PROCEDURE

1. Press the PLAY button.
   - Normal playback starts.
2. Check the tracking level.
   - Set the METER SELECT switch to TRACKING.
   - Adjust the TRACKING control until the tracking meter (AUD-2/R) deflects fully to the right.
   - Check the monitor screen to be sure that the picture is not blurred or marred by noise bars.
3. Set the PB Y ENHANCE switch as required.
   - If the VIDEO OUT select switch is set to EDIT, this switch has no effect.
4. Press the STOP button to stop playback.

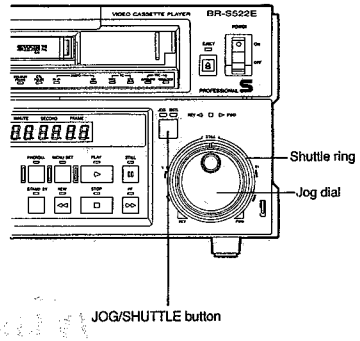
NOTES:
- LP recordings cannot be played back.
- The BR-S522E is preset to enter the Stop mode at tape end. If you want the unit to automatically rewind when the end of the tape is reached, set menu item #312 to "01 – REW". (☞ p.22)



SHUTTLE SEARCH

The Shuttle Search mode is automatically activated when you turn the outer Shuttle ring in the Play, Still, FF, REW, or Stop mode. Turn the ring to adjust tape speed and direction as required.

- The STILL position (center click-stop) provides a still picture.
- Turn the dial clockwise to search in the forward direction; counterclockwise to search in the reverse direction.
- The X1 click-stop provides normal speed search in the forward direction. X-1 provides normal speed search in the reverse direction.
- Another click-stop is located between X1 and the maximum position. This provides search at 4 times normal speed.
- When the dial is turned fully clockwise or counterclockwise, maximum search speed (about 32 times normal with full-size cassettes and 14 times normal with C-size cassettes) is provided.
- To change modes, press the button corresponding to the desired mode (PLAY, STOP, REW, FF)
- For immediate reactivation of the Shuttle mode at the search speed corresponding to the current dial setting, press the JOG/SHUTTLE button.



JOG SEARCH

Turn the inner Jog dial to adjust tape speed and direction as required.

- The BR-S522E enters the Jog mode and the JOG indicator lights.
- Tape speed varies in relation to how quickly you turn the dial.
- When the dial is released, the VCR enters the Still mode.

NOTES:

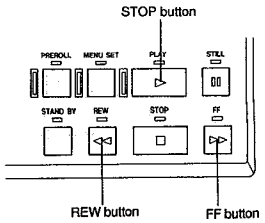
- Leaving the BR-S522E in the Still mode for too long may damage the tape. To prevent this, the tape is automatically shifted to another video track when the Still mode continues for more than 5 minutes. (selectable with menu item #307, ☞ p.21.)

REWIND AND FAST-FORWARD

1. To rewind the tape at high speed, press REW in any mode.
2. To advance the tape at high speed, press FF in any mode.
3. Press STOP to stop rewind or fast-forward.

NOTES:

- Search mode is selectable via menu item #301 (☞ p.21)
- Maximum REW/FF speed is selectable via menu item #319 (☞ p.23)



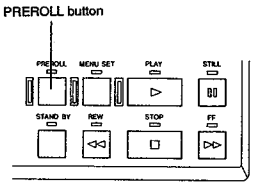
PREROLL PLAYBACK

This function allows you to cue programs for feeding or insertion and ensures that the tape is stablised when the picture is transmitted.

1. Locate the point where you wish playback to begin.
2. Press PREROLL.
   - The tape will rewind about 5 seconds of program time and enter the Stop mode. (Preroll time is selectable via menu item #320, ☞p.23)
3. Press PLAY exactly 5 seconds before the scheduled insertion time.
   - Playback starts. When transmission starts, the picture will be fully stabilised.

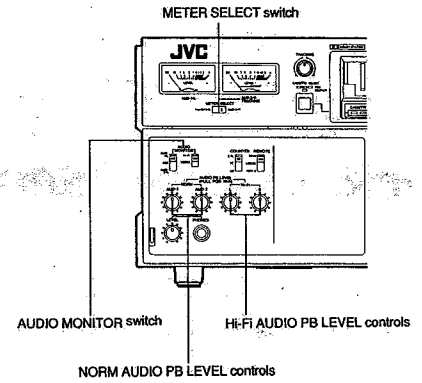
NOTES:

If menu item #322 is set to "01 – ENTERED", the IN point is entered automatically when the PREROLL button is pressed. Press the COUNTER RESET button to cancel entered IN point.



AUDIO PLAYBACK LEVEL ADJUSTMENT

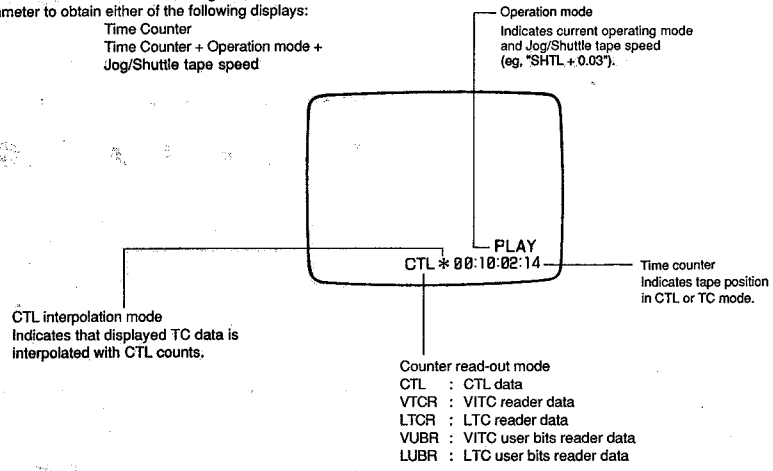
- Set the rear panel AUDIO OUTPUT LEVEL select switches to match the input signal level of connected equipment.
- Set the METER SELECT switch to AUD-2/R.
- For Hi-Fi audio level adjustment, set the AUDIO MONITOR switch to Hi-Fi and adjust the Hi-Fi AUDIO PB LEVEL L/R controls until the meters deflect to "0" at peak signal level.
- For normal audio level adjustment, set the AUDIO MONITOR switch to NORM and adjust the NORM AUDIO PB LEVEL AUD-1/AUD-2 controls until the meters deflect to "0" at peak signal level.
- The controls can be turned when pulled out.



ON-SCREEN DISPLAYS

You can choose the display mode via menu setting. The time counter, operation mode, and Jog/Shuttle tape speed displays are available with the initial setting. You can reset the menu parameter to obtain either of the following displays:

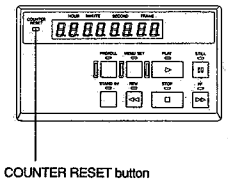
Time Counter
Time Counter + Operation mode + Jog/Shuttle tape speed



COUNTER DISPLAY

The BR-S522E's time counter shows tape time in hours, minutes, seconds, and frames in both CTL and TC modes. It also displays user bits, menu settings, and warning codes.

Resetting the counter
In the CTL mode, you can press the COUNTER RESET button to reset the time counter to zero.



NOTES:
- The counter cannot be reset during preroll and automatic editing.
- For details on menu setting and warning code displays, ☞ p. 19 and p. 27.

TIME CODE/USER BITS

TIME CODE

This system simplifies location and specification of video frames by marking each frame with an 8-digit code number or "address". Essential for accurate editing, these "addresses" represent absolute tape positions and are displayed in hours, minutes, seconds, and frames, allowing you to specify exactly where edits are to start and stop by entering the IN and OUT time code values.
There are two different time code systems: LTC and VITC.

LTC (Longitudinal Time Code)
Time code addresses are recorded on a dedicated linear track by a fixed head. With the BR-S522E, the audio-2 track functions as an LTC track. (☞ p.21, menu item #206)

VITC (Vertical Interval Time Code)
The VITC is recorded during the video signal's vertical blanking period by a rotary head. Besides leaving the audio-2 channel free for editing, this permits accurate readout during still and search at speeds less than normal.

The time code used for the BR-S522E and the SA-R22E time code reader/generator conforms to the EBU standard.

USER BIT

"User bits" is a portion of the time code signal allocated to the user. It can be used to record the operator number or reel numbers.

TIME CODE EDITING

Accurate editing in reference to time code data is possible with editing suites controlled via 9-pin serial interface.
- Install the SA-R22E TC board in the BR-S522E.
- Use another VCR with TC reading capability as the recorder, eg. the BR-S822E with SA-R22E TC board installed.
- For swap editing, connect the recorder and player via 9PIN connectors. Set the COUNTER switch to TC.
- For externally controlled editing, use a 9-pin serial editing controller. Switching between TC and CTL modes can be done with the controller.

TIME CODE PLAYBACK

- When tapes with time code are played back, the rear panel TIME CODE OUT connector outputs the playback time code signal in its original form. The counter shows time code being read by the internal TC reader (with COUNTER switch set to TC).
- If you need regenerated LTC time code from the TIME CODE OUT connector, set the PRESET/REGEN switch to REGEN and re-set menu item #405 to "01 – TCG" (☞p.24). To dub time code, or to supply the playback time code signal to another VCR, use this mode for more assured time code recording.

NOTES:
- All time code data is cleared when power is switched off.

SETUP MENU

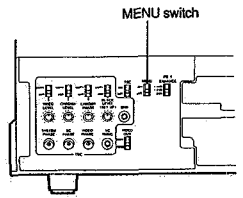
OPERATION

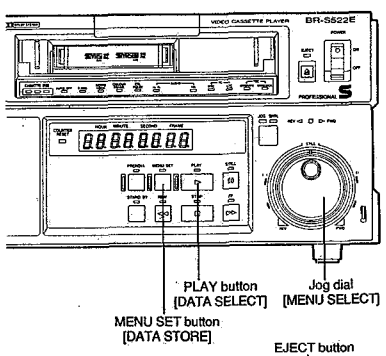
By engaging the Menu Set mode, you can cancel any preset functions that you don't require or change certain parameters as desired.

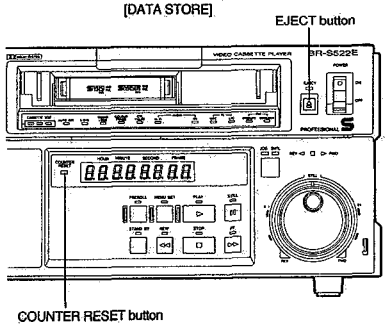
1. Set the MENU switch to ON.
   - The set-up menu appears on the monitor screen. The counter display will also switch to the Menu Set mode.
   - The Menu number (000) for the first item will blink.
2. Turn the Jog dial to locate the item you want to set.
   - Turning the dial clockwise increments the setting items (000→100→102, etc.); turning it counterclockwise, decrements the setting items.
3. When you locate an item you wish to change, press PLAY.
4. Press PLAY again to change the setting.
5. To continue setting, repeat steps 2 to 4.
6. Press MENU SET to store the new settings.
7. To exit the menu, set the MENU switch to OFF.

NOTE:

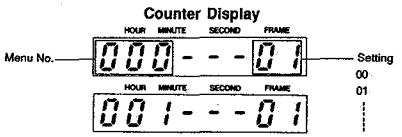
- All menu items can be automatically restored to their initial settings. To do this, first switch off the VCR's power. Then, while pressing COUNTER RESET and EJECT simultaneously, switch on the power. Keep the buttons pressed for at least five seconds. All menu items will have been restored to their initial settings.

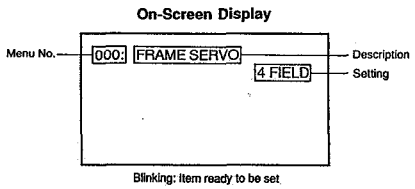






MENU SETTINGS





(Initial settings are in brackets.)

Menu No.		On-Screen Description	Settings		Explanation
			Counter	On-Screen	
SERVO	000	FRAME SERVO	[01]	[4 FIELD]	4 FIELD: To use Colour Frame Servo when editing in colour frame servo mode.
			02	2 FIELD	2 FIELD: To use Frame Servo.
VIDEO	100	SWITCHING POINT			Selects head switching point.
			[00]	[PB4.5H]	PB4.5H: To position head switching point 4.5H ahead of V sync in playback (1H lower than normal). Normally use this setting.
			01	PB5.5H	PB5.5H: To position head switching point 5.5H ahead of V sync in playback.
			02	PB1.25H	PB1.25H: To position head switching point 1.25H ahead of V sync in playback. Use this setting when a tape recorded with the head switching point set at 2.25H ahead of V sync is played back in the TBC mode. (This type of recording is applied in closed-circuit systems for a lower switching point.)
	102	U-VCR Y/C MODE			Selects the mode of the signal output via rear panel OPTION (Y-686/924) connector. (Effective with SA-E92E board)
			[00]	[CONV.]	CONV.: To output Y-686 dubbing signal to conventional 3/4" U-VCR machines.
			01	HB/SP	HB/SP: To output Y-924 dubbing signal to 3/4" U-VCR SP or Hi-Band machines.
	104	COMPONENT OUT LEVEL			Selects the level of component signals output via rear panel Y/R-Y/B-Y connectors. (Effective with SA-T22E)
			[00]	[LOW]	LOW: To output component signals to MII machines.
			01	HIGH	HIGH: To output component signals to Betacam machines.

Menu No.		On-Screen Description	Settings		Explanation
			Counter	On-Screen	
AUDIO	201	NORM. AUDIO DOLBY NR	00 [01]	OFF [ON]	OFF: To defeat Dolby NR circuit for normal audio. ON: To activate Dolby NR circuit for normal audio.
	203	AUDIO OUT	[00] 01 02	[SEP.] Hi-Fi NORM	Selects output signals via rear panel AUDIO OUT connectors. SEP.: To output as labelled: normal audio from NORMAL AUD-1/AUD-2, Hi-Fi audio from Hi-Fi L/R. Hi-Fi: To output Hi-Fi audio from all connectors: NORMAL AUD-1 outputs Hi-Fi left-channel signal and NORMAL AUD-2 outputs Hi-Fi right-channel signal. NORM: To output normal audio from all connectors: Hi-Fi L outputs normal audio-1 signal and Hi-Fi R outputs normal audio-2 signal.
	204	Hi-Fi OUT AT SEARCH	[00] 01	[MUTE] NORM	Selects output signals via rear panel Hi-Fi AUDIO OUT connectors during search. MUTE: To output muted Hi-Fi audio. NORM.: To output normal audio.
	206	AUD-2/LTC	[00] 01	[AUD-2] LTC	Selects signals to be recorded on the normal audio-2 track. AUD-2: To play back tapes with no LTC recorded on the normal audio-2 track. LTC: To play back LTC-recorded tapes.
SYSTEM	300	DIRECT EJECT	00 [01]	DISABLE [ENABLE]	DISABLE: EJECT command is accepted only from Stop mode. ENABLE: EJECT command is accepted from any mode.
	301	DIRECT SEARCH	00 [01]	DISABLE [ENABLE]	DISABLE: Jog/Shuttle dials do not function unless JOG/SHTL button is pressed first. ENABLE: Jog/Shuttle dials function directly from Stop, Play, Still, FF and REW modes.
	303	WARNING INHIBIT	[00] 01	[OFF] ON	OFF: Malfunctions are detected for warning indications. Normally keep set to this position. ON: Detection of malfunctions is inhibited. No warning indication is available.
	305	REPEAT PLAY	[00] 01	[DISABLE] ENABLE	DISABLE: Repeat playback is not available. ENABLE: The entire tape is played back repeatedly until cancelled.
	306	LONG PAUSE	00 [01]	DISABLE [ENABLE]	DISABLE: To defeat Long Pause function. ENABLE: To use Long Pause function in Standby-On, Still and Record-Pause modes. (Long Pause parameters are selected with menu items #307, #308 and #309.)
	307	LONG PAUSE TIME	00 01 02 03 04 05 06 [07]	1 SEC 10 SEC 30 SEC 1 MIN 2 MIN 3 MIN 4 MIN [5 MIN]	With menu item #306 set to ENABLE, selects the length of time before normal Pause (Standby-On and Still) mode changes to Long Pause.

Menu No.		On-Screen Description	Settings		Explanation
			Counter	On-Screen	
SYSTEM	308	LONG PAUSE (STILL)	00 01 [02]	STANDBY-OFF T. RELEASE [STEP FWD]	Selects the contents of Long Pause mode. (After the time set with menu item #307 expires in Still mode, the VCR operates as specified.) STANDBY-OFF: Enters Standby-Off mode. T. RELEASE: Tension arm is released for tape protection. Still pictures continue to be available. STEP FWD: Tape advances 2 frames in slow-motion for about 2 seconds. This action is repeated 5 times at the time intervals set with menu item #307. The VCR enters the Standby-Off mode after the final interval.
	309	LONG PAUSE (STOP)	[00] 01 02	[STANDBY-OFF] T. RELEASE STEP FWD	Selects the contents of Long Pause mode. (After the time set with menu item #307 expires in the Standby-On mode, the VCR operates as specified.) STANDBY-OFF: Enters Standby-Off mode. T. RELEASE: Tension arm is released for tape protection. STEP FWD: Tape advances 2 frames in slow-motion for about 2 seconds. This action is repeated 5 times at the time intervals set with menu item #307. The VCR enters the Standby-Off mode after the final interval.
	310	STANDBY-OFF MODE	00 [01] 02	DRUM ON [DRUM OFF] UNLOAD	Selects the status of Standby-Off mode. DRUM ON: Head drum continues to rotate with tape loaded. DRUM OFF: Head drum stops rotating with tape loaded. UNLOAD: Head drum stops rotating and tape unloads.
	311	MODE AT TAPE BEGIN	[00] 01	[SHORT-FF] PLAY	Selects the mode entered when the beginning of the tape is detected. SHORT-FF: Fast-forwards the leader section and enters Standby-On mode. PLAY: Enters Play mode.
	312	MODE AT TAPE END	[00] 01	[SHORT-REW] REW	Selects the mode entered when the end of the tape is detected. SHORT-REW: Rewinds the leader section and enters Standby-On mode. REW: Rewinds to the beginning of tape and enters Standby-On or Play mode depending on the setting of menu item #311.
	313	PB•PB/BLACK	00 [01]	PB/BLACK [PB]	Selects output signal in the mode specified with menu item #314. PB/BLACK: No signal is output. PB: Playback signal is output.
	314	PB/BLACK MODE	[00] 01	[STOP/FF/REW] STOP	Selects the mode in which no signal is output. STOP/FF/REW: No signal is output in Stop, FF and REW modes. STOP: No signal is output in Stop mode and search playback signal is output in FF and REW modes.
	315	LOCAL FUNCTION	[00] 01 02 03	[STOP,EJECT] STP,EJ,PLY,FF, RW,STL ALL ENABLE ALL DISABLE	Selects functions that can be locally operated when front panel REMOTE switch is set to 9PIN or REM-2.
	316	9PIN CMD FUNCTION	[00] 01	[ALL DISABLE] STOP, EJECT	Selects 9-pin remote control commands that are acceptable when front panel REMOTE switch is set to LOCAL. ALL DISABLE: Accepts no command from 9-pin remote control. STOP,EJECT: Accepts STOP and EJECT commands only. (Note: With some remote controls, no command is accepted.)

Menu No.		On-Screen Description	Settings		Explanation
			Counter	On-Screen	
SYSTEM	317	9PIN DEVICE TYPE ID	[00] 01 02 03	[JVC SVHS-1] JVC SVHS-2 OTHER TYPE-1 OTHER TYPE-2	Selects device type ID returned from VCR to 9-pin remote control in response to its request. JVC SVHS-1: Use this setting with RM-G860E/BR-S822E. JVC SVHS-2: Use this setting with a controller that accepts the SA-F911E's ID. OTHER TYPE-1/OTHER TYPE-2: Consult a JVC dealer.
	318	TC DATA W/O TC BOARD	[00] 01	[TC MISSING] CTL DATA	Selects VCR's response to 9-pin remote control when remote control requests time code data when TC board is not installed. TC MISSING: VCR returns code meaning TC MISSING. CTL DATA: VCR returns substitute CTL data.
	319	TAPE MAX SPEED	[00] 01 02	[X100] X32 X16	Selects maximum tape speed. (FF and REW speeds also correspond to this setting. In the 100x mode, no signal is output. In the 32x and 16x search modes, the playback signal is output. The CTL signal is not output in the 16x search mode.)
	320	PREROLL TIME	00 [07] 15	0 SEC [7 SEC] 15 SEC	Selects preroll time in one-second steps from 0 to 15 seconds.
	321	TIME REF. FOR PREROLL	00 [01]	CTL [TC]	Selects time count reference for preroll in TC operation. CTL : Refers to CTL counts. Preroll is possible even when time codes are missing. TC : Refers to time codes.
	322	IN POINT AUTO ENTRY	[00] 01	[NOT ENTERED] ENTERED	Activates or defeats automatic IN point entry function. NOT ENTERED: IN point is not entered automatically by pressing PREROLL button. ENTERED: IN point is entered automatically by pressing PREROLL button if no IN point has been previously entered. (Press the COUNTER RESET button to cancel.)
	323	MODE AFTER PREROLL	[00] 01	[STOP] STILL	STOP: Enters Stop mode after preroll is completed. STILL: Enters Still mode after preroll is completed.
	325	CTL COUNTER MODE	[00] 01	[±9H] 24H	±9H: Counter shows from –9 to +9 hours in CTL mode. 24H: Counter shows from 0 to 24 hours in CTL mode.
	326	CTL COUNTER MEMORY	[00] 01	[OFF] ON	OFF: No counter memory function is available. ON: Enters Stop mode at CTL counter reading of zero in FF and REW modes.
	327	CTL CLEAR AT EJECT	00 [01]	DISABLE [ENABLE]	DISABLE: CTL counter is not reset when cassette is ejected. ENABLE: CTL counter is reset when cassette is ejected.
	332	CASSETTE SEL. INHIBIT	[00] 01	[OFF] ON	OFF: Cassette size selection is possible with the CASSETTE SELECT button on the front panel. ON: Cassette size selection is inhibited.

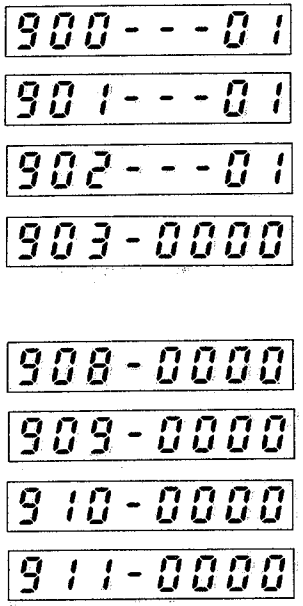
Menu No.		On-Screen Description	Settings		Explanation
			Counter	On-Screen	
SYSTEM	333	CF SERVO LOCK REPLY	00 [01]	DISABLE [ENABLE]	Selects information to deliver to 9-pin remote. DISABLE: Colour frame cannot be locked to 4-field colour framing mode (even if locked). ENABLE: Colour frame is locked to 4-field colour framing mode.
	334	CF RE-LOCK AT PLAY	[00] 01	[DISABLE] ENABLE	Activates or defeats colour frame re-lock function when colour frame lock is disengaged in Play mode.
TIME CODE	404	TC SOURCE AT REGEN	[00] 01	[LTC] VITC	Selects the type of reference time code in the Regen mode. LTC : Reference code is LTC. VITC : Reference code is VITC.
	405	LTC OUT (REGEN)	[00] 01	[OFF TAPE] TCG	Selects output signal from TIME CODE OUT connector while playback is in progress in Regen mode. OFF TAPE: Outputs time code signal picked up from tape. TCG: Outputs time code signal regenerated by TC generator.
ON-SCREEN	500	ON-SCREEN DISPLAY	00 [01]	OFF [ON]	OFF: No data is displayed on-screen. ON: Data is displayed on-screen.
	501	CHAR. H-POSITION	[00] 08	[00] 8	Adjusts on-screen VCR data display position in the horizontal direction. 0 : VCR data is displayed at the rightmost position. 1 - 8: Display position shifts to the left with increasing numbers.
	502	CHAR. V-POSITION	[00] 09	[00] 9	Adjusts on-screen VCR data display position in the vertical direction. 0 : VCR data is displayed at the bottom of screen. 1 - 9: Display position shifts up with increasing numbers.
	503	CHAR. BACKGROUND	[00] 01 02	[BORDER] SEMI. BLACK	BORDER: Displays bordered characters. SEMI.: Displays semi-transparent characters. BLACK : Displays characters on black background.
	504	INFORMATION	00 [01]	TIME [TIME & MODE]	Selects available on-screen information. TIME: Time counter data. TIME & MODE: Time counter data, operation mode and Jog/Shuttle tape speed.
TBC	600	TBC FREEZE	[00] 01	[DISABLE] ENABLE	Selects the mode of still pictures in TBC operation. DISABLE: Outputs normal still pictures. ENABLE: Outputs 'freeze' still pictures from TBC's field memory when STILL button is pressed while in Play mode. This is effective only in LOCAL operation.
	601	V BLANK MASK	[00] 01	[OFF] ON	Activates or defeats vertical blanking interval masking function in TBC operation. OFF: No masking function. ON: Masks the entire vertical blanking interval in playback to erase VITC. VITC readout is impossible with this setting.
	602	DNR	00 [01]	OFF [ON]	Activates or defeats operation of optional Digital Noise Reducer. (Only effective with optional SA-T22E installed.) OFF: Playback bypass DNR. ON: Playback through DNR.

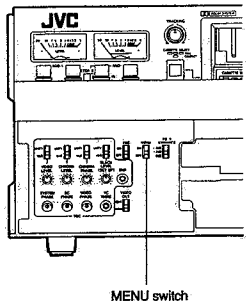
ROM VERSION/HOUR METER DISPLAY

By engaging the Menu Set mode, you can also check the numbers of device ROMs and the hour meter.

1. Set the MENU switch to ON.
   - The set-up menu appears on the monitor screen. The counter display will also switch to the Menu Set mode.
   - The Menu number (000) for the first item will blink.
2. Turn the Jog dial to locate items with numbers in the order of 900.
   - For quicker location, turn the Jog dial counterclockwise.

Counter Display





MENU switch

On-Screen Display

```
900:SYSCON ROM Ver.
                01
901:MECHACON ROM Ver.
                01
902:OPERATION ROM Ver.
                01
903:SLOT ROM Ver.
          NO CONNECT 00
     AVM/OS ROM Ver.
                04
```

```
908:POWER HOUR METER
                0000H
909:DRUM HOUR METER
                0000H
910:CAP HOUR METER
                0000H
911:REEL HOUR METER
                0000H
```

Menu No.	On-Screen Description	Explanation
900	SYSCON ROM Ver.	Indicates version number of SYSCON ROM.
901	MECHACON ROM Ver.	Indicates version number of MECHACON ROM.
902	OPERATION ROM Ver.	Indicates version number of OPERATION ROM.
903	SLOT ROM Ver.	Indicates version number of SLOT ROM. This item also shows the type of remote control installed in the slot. Available indications are: JVC45PIN (20 on 5th and 6th digits on counter display) RS-232C (21 on 5th and 6th digits on counter display) NO CONNECT (00 on 5th and 6th digits on counter display)
---	AVM/OS ROM Ver.	Indicates version number of AV microcomputer/on-screen ROM.
908	POWER HOUR METER	Indicates the total time (up to 4 digits in hours) the BR-S522E has been powered.
909	DRUM HOUR METER	Indicates the total working time of the drum motor in hours.
910	CAP HOUR METER	Indicates the total working time of the capstan motor in hours.
911	REEL HOUR METER	Indicates the total working time of the reel motors in hours.

CAUTION
Do not set the following two settings together:
Menu item #303 WARNING INHIBIT — 01 ON, and #306 LONG PAUSE — 00 DISABLE.
We are not responsible for any malfunctions caused by this combination of settings.

WARNING DISPLAY

DIAGNOSTIC CODES

The WARNING display uses numerical codes to indicate various malfunctions and warnings on the counter display. Worded warning messages are provided on-screen. In some cases, power must be turned off before the machine can be recovered. When the AUTO OFF indicator lights, power must be turned on and off again before the machine can be recovered.

	AUTO OFF Indicator	Display code	WARNING (On-Screen Display)	Symptom/Operation
Sensors	YES	01	WARNING 01 LAMP FAILURE	Tape-end sensor LED burns out. The cassette will be ejected. All controls become inoperative.
	YES	02	WARNING 02 CONDENSATION ON DRUM	Moisture condensation on drum and in transport. The cassette is ejected. After ejection, the drum starts rotating and cassettes cannot be loaded until condensation has been eliminated. Do not turn the power off until the AUTO OFF indicator goes out.
	YES	08	WARNING 08 SUP TENSION FAILURE	Slack tape on the supply reel. All controls become inoperative.
Loading Mechanism		32	WARNING 32 FAILURE LOADING	Tape cannot load correctly. Tape unloads and the cassette is ejected. The display turns off when a cassette is inserted again. Normal operation is restored.
	YES	33	WARNING 33 FAILURE UNLOADING	Tape cannot unload. All controls become inoperative.
Cassette Carriage	YES	41	WARNING 41 CASSETTE EJECT FAILURE	Cassette carriage does not lift during tape ejection (even after 3 seconds have passed). All controls become inoperative.
Leader Tape Detection		56*	WARNING 56 TAPE DEFECTIVE	Tape beginning and end sensors turn ON during loading because the tape is broken. The cassette is ejected. If the cassette fails to load properly, it may get stuck in the cassette slot. In this case, remove it by hand.The display turns off when an undamaged cassette is inserted. Normal operation is restored.
		57	WARNING 57 END LEADER DETECTION	Tape-end sensor turns ON during loading. Rewind mode is engaged. If the leader tape is detected within 3 seconds, the cassette is ejected. The display turns off when a cassette is inserted again. Normal operation is restored.
		58	WARNING 58 BEGIN LEADER DETECTION	Tape-beginning sensor turns ON during loading. FF mode is engaged. If the leader tape is detected within 3 seconds, the cassette is ejected. The display turns off when a cassette is inserted again. Normal operation is restored.
Rotating System	YES	70	WARNING 70 DRUM MOTOR FAILURE	Drum motor stops. All controls become inoperative. Recovers when a cassette is inserted again.
	YES	71	WARNING 71 CAP MOTOR FAILURE	Capstan motor stops. All controls become inoperative. Recovers when a cassette is inserted again.
	YES	72	WARNING 72 SUP REEL MOTOR FAILURE	Supply reel rotates abnormally. All controls become inoperative. Recovers when a cassette is inserted again.
	YES	73*	WARNING 73 TU REEL MOTOR FAILURE	Take-up reel rotates abnormally. All controls become inoperative. Recovers when a cassette is inserted again.
Others	YES	04	WARNING 04 REEL SERVO FAILURE	Power supply to reel tension servo stops. All controls become inoperative.

* Cassette insertion is not possible if the cassette slot remains open after cassette ejection. In this case, press the EJECT button to close the slot door, and insert the cassette again.

TEST POINTS

The output signals from the Hi-Fi audio heads and video heads are available at the front panel test points. Connect an oscilloscope to these test points to check the BR-S522E's performance and condition.

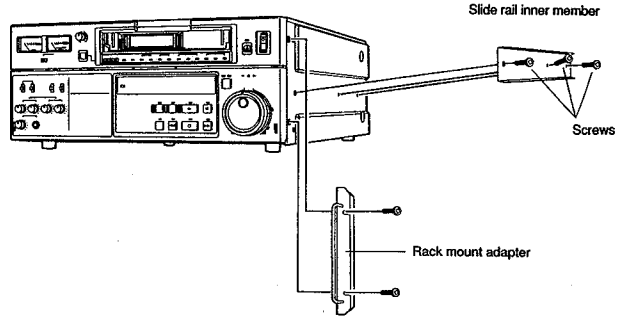
Connection	Items to be checked	Standard waveform
Hi-Fi audio head output V-RF → To input terminal of oscilloscope A-RF → To external trigger terminal of oscilloscope D-PULSE → To external trigger terminal of oscilloscope GND → To ground terminal of oscilloscope	• Tape-to-head contact • Tape running stability • Inferior RF after head replacement	• "+" triggered CH-1 CH-2
Video head output V-RF → To input terminal of oscilloscope A-RF → To external trigger terminal of oscilloscope D-PULSE → To external trigger terminal of oscilloscope GND → To ground terminal of oscilloscope	• Compatibility of tape pattern • Tape-to-head contact • Tape running stability • Tracking • Abnormality in RF Use a 10:1 probe	• "+" triggered CH-2 CH-1

INSTALLATION

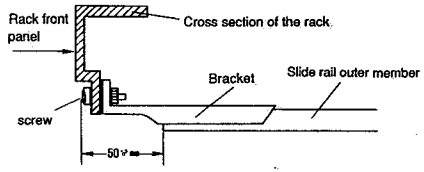
RACK MOUNTING

Using the optional SA-K63UB Rack Mount Adapter, you can install the BR-S522E in a 19" EIA-standard rack.
- Use a complete slide and bracket unit such as the Accuride slide and bracket unit (Part No. C-2038-22/BK-2038).
- For more details, consult your local JVC service agent.

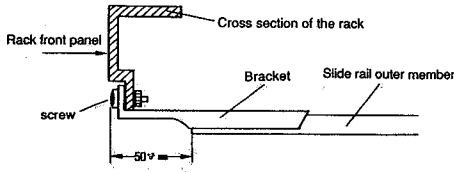
1. Attach the inner members of the slide rails with screws as illustrated. (Screws should be no more than 8 mm long.)
2. Attach the SA-K63UB rack mount adapter.



3. Attach the right and left brackets and outer members of the slide rails to the rack.
   - When installing the bracket at the back of the rack's panel surface.



- When installing the bracket at the front of the rack's panel surface.



* Adjust the distance between the front panel and the slide rail to between 50 and 55 mm.

4. Check that the unit slides in and out smoothly.

NOTE:
- The rack mount adapter handle is only for sliding the unit. Do not carry the unit holding the handle.

CONNECTOR SPECIFICATIONS

9-Pin Remote Connector

Pin No.	Local	Remote
1	GND	GND
2	RECEIVE A	TRANS A
3	TRANS B	RECEIVE B
4	GND	GND
5	—	—
6	GND	GND
7	RECEIVE B	TRANS B
8	TRANS B	RECEIVE A
9	GND	GND

Y/C 443 7-Pin Connector

Pin No.	Signal
1	Y SIGNAL
2	GND (Y SIGNAL)
3	—
4	—
5	C SIGNAL
6	GND (C SIGNAL)
7	—

XLR 3-Pin Connector

Pin No.	Signal
1	GND
2	COLD
3	HOT

15-Pin TBC Remote Connector (option)

Pin No.	Signal
1	FG
2	+12V
3	GND
4	VIDEO LEVEL
5	CHROMA LEVEL
6	CHROMA PHASE
7	SET UP LEVEL
8	RSVD DC 1
9	RSVD DC 2
10	REMOTE EN
11	FREEZE EN
12	RSVD CTL 1
13	RSVD CTL 2
14	OPERATE
15	GEN LOCK

45-Pin Remote Connector (option)

1	GND	◁	21	V SPEED CTL ◁	ANALOG
2	REC CMD*	◁	22	EDIT TALLY ▶	
3	STOP CMD	◁	23	STILL TALLY ▶	
4	PLAY CMD	◁	24	SEARCH TALLY ▶	
5	FF CMD	◁	25	PREROLL TALLY ▶	
6	REW CMD	◁	26	FF TALLY ▶	
7	FWD CMD	◁	27	PLAY TALLY ▶	
8	SEARCH CMD	◁	28	STOP TALLY ▶	
9	REV CMD	◁	29	REW TALLY ▶	
10	STILL CMD	◁	30	REC TALLY* ▶	
11	PREROLL CMD	◁	31	TAPE REV ▶	
12	E. START CMD	◁	32	CTL PULSE ▶	
13	E. STOP CMD	◁	33	NC ▶	
14	PREVIEW CMD	◁	34	12V DC ▶	
15	REMOTE CMD	◁	35	CTL PULSE ▶	
16	A1 INS CMD*	◁	36	EE CMD ◁	
17	A2 INS CMD*	◁	37	X2 CMD ◁	
18	V INS CMD*	◁	38		
19	SERVO LOCK	▶	39	X1/5 CMD ◁	
20	ASSEM CMD*	◁	40	DFR STOP CMD ◁	
			41	X1 CMD ◁	
			42	EXTERNAL CAP SEARCH ◁	
			43	VHS ▶	
			44		
			45	EJECT CMD ◁	

◁ TO VTR
▶ FROM VTR

PULSE, STATUS

* Not applicable to the BR-S522E.

Y-686/924 7-Pin Output (option)

Pin No.	Signal
1	Y SIGNAL
2	GND (Y SIGNAL)
3	—
4	—
5	C SIGNAL
6	GND (C SIGNAL)
7	COLOUR FRAME PULSE

SPECIFICATIONS

GENERAL

Format	:	VHS/S-VHS Europe standard
Power consumption	:	80 W
Power requirement	:	AC 110 – 127 V/220 – 240 V~, 50/60 Hz
Dimensions	:	42.9 (W) X 18.8 (H) X 56.5 (D) cm
Weight	:	23 kg
Operating temperature	:	5°C to 40°C
Storage temperature	:	–20°C to 60°C
Tape speed	:	23.39 mm/sec
Recording & Playback time	:	Max. 180 min. with JVC SE-180/E-180
Fast forward/ Rewind time	:	Less than 2.5 min. for 180 min. tape

VIDEO

Playback	:	Rotary two-head helical scanning system
Luminance	:	FM recording
Colour signal	:	Phase shift, converted sub-carrier *direct recording*
Video signal system	:	PAL-type colour signal/PAL-type Y/C signal
Output		
Line	:	1.0 Vp-p, 75 ohms, unbalanced
Y/C 443	:	Y: 1.0 Vp-p, 75 ohms, unbalanced C: 0.3 Vp-p, 75 ohms, unbalanced (Burst)
Signal-to-noise ratio	:	More than 46 dB (S-VHS) More than 45 dB (VHS)
Horizontal resolution	:	More than 400 lines (S-VHS) More than 250 lines (VHS)
Reference video input	:	0.3 to 1.0 Vp-p, 75 ohms, unbalanced (with loop-through, with the SA-T22E)
External sync input	:	0.3 to 4.0 Vp-p, 75 ohms, unbalanced (with one loop-through, without the SA-T22E)

AUDIO

Output		
Line	:	–6/0/+4 dBs, Low impedance, balanced (Hi-Fi/Normal)
Monitor	:	–6 dBs, Low impedance, unbalanced
Phones	:	∞ to –17 dBs, 8 ohms
Signal-to-noise ratio	:	More than 43 dB (NR-off, Normal at 3% distortion)
Dynamic range	:	*More than 87 dB (Hi-Fi)*
Frequency response	:	20 to 20,000 Hz (Hi-Fi) 40 to 12,000 Hz (Normal)
Wow & flutter	:	Less than 0.005% WRMS (Hi-Fi) Less than 0.3% RMS (Normal)

TIME CODE

Output	:	0 dB ± 3 dBs, Low impedance, unbalanced

CONNECTORS

Video		
Line output	:	BNC-type connectors
Y/C 443 output	:	7-pin connectors
Monitor	:	BNC-type connector
Audio		
Hi-Fi output	:	XLR connectors
Normal output	:	XLR connectors
Monitor	:	RCA connector
Remote control	:	9-pin connector

Design and specifications subject to change without notice.

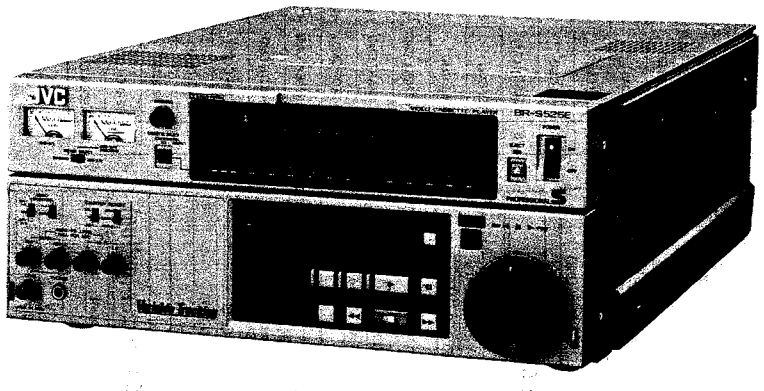
INSTRUCTIONS

JVC

BR-S525E

VIDEO CASSETTE PLAYER
VIDEOKASSETTENPLAYER
LECTEUR DE CASSETTE VIDEO

S-VHS 625 VHS PAL S-VHS C 625 VHS PAL Variable Tracking Hi-Fi



PGD 30002-301

SAFETY PRECAUTIONS

Warning Notice
FOR YOUR SAFETY (Australia)

1. Insert this plug only into effectively earthed three-pin power outlet.
2. If any doubt exists regarding the earthing, consult a qualified electrician.
3. Extension cord, if used, must be three-core correctly wired.

IMPORTANT (In the United Kingdom)
Mains Supply (AC 240 V~)
WARNING - THIS APPARATUS MUST BE EARTHED

The wires in this mains lead are coloured in accordance with the following code;

GREEN-and-YELLOW:	EARTH
BLUE:	NEUTRAL
BROWN:	LIVE

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows.
The wire which is coloured GREEN-AND-YELLOW must be connected to the terminal in the plug which is marked with the letter E or by the safety earth symbol ⏚ or coloured GREEN or GREEN-AND-YELLOW. The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or which is coloured BLACK. The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.

POWER SYSTEM
Connection to the mains supply
The operating voltage of this set is preset to 220 – 240 V~ at the factory.
Before connecting to mains, check that the voltage selector on the rear panel is set to the same voltage as your local mains supply.
Adapting to local power line
This set operates on 110 – 127 V/220 – 240 V~ AC, 50/60 Hz.
If the preset voltage is different from the power line voltage in your area, reset the voltage selector by inserting a screwdriver into the slot of the voltage selector and turning it until the correct voltage is displayed.

This unit is produced to comply with Directives 76/889/EEC, 82/499/EEC, 87/308/EEC, and IEC Publ.65.

WARNING:
TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION
To prevent electric shock, do not open the cabinet. No user serviceable parts inside. Refer servicing to qualified service personnel.

Note:
The rating plate and the safety caution are on the rear of the unit.

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HOW TO USE THIS MANUAL

This manual introduces you to the BR-S525E S-VHS Player and shows you how to make the most of its many advanced features. Because the manual is written for the person who has some experience in videotape recording and is familiar with the terms and techniques described, explanations and definitions are kept to a minimum.

Also, some functions are available only when the corresponding optional boards are plugged in. Whenever these functions are referred to in the text, it is assumed that the corresponding boards have been installed.

- TC functions are available only when the optional SA-R22E Time Code Reader/Generator board is installed.
- Y/C686/924 Output is available only when the optional SA-E92E Output board is installed.

IMPORTANT

Instructions for all operations are based on the setup menu's initial settings unless otherwise specified. We recommend that you familiarise yourself with the available settings before operating the VCR. For more information, please refer to "Setup Menu", ☞ p.23

PREPARATIONS

VCR

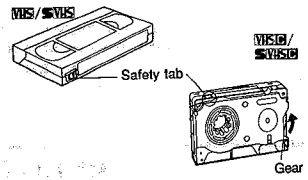
- Avoid using the unit in places subject to the following conditions:
  – extreme heat, cold, or humidity,
  – dust,
  – vibrations, and
  – poor ventilation.
- Be careful of moisture condensation.
  Do not use the unit immediately after moving it from a cold place to a warm place. The water vapor in warm air will condense on the still-cold video head drum and tape guides and may cause damage to the tape and the unit.
- Handle the unit carefully.
  - Do not block the ventilation openings.
  - Do not place anything heavy on the unit.
  - Do not place anything which might spill on the top cover of the unit.
  - Use in horizontal (flat) position only.
- During transportation,
  - Avoid violent shocks to the unit during packing and transportation.
  - Before packing, be sure to remove the cassette from the unit.

VIDEO CASSETTES

This player uses S-VHS, S-VHS-C, VHS, and VHS-C cassettes. Only cassettes recorded in the standard play (SP) mode can be played on this player.

S-VHS: SE-180 for 180 minutes, SE-120 for 120 minutes, SE-60 for 60 minutes, and SE-30 for 30 minutes of playback.
S-VHS-C: SE-C30 for 30 minutes of playback.
VHS: E-180 for 180 minutes, E-120 for 120 minutes, E-90 for 90 minutes, E-60 for 60 minutes, and E-30 for 30 minutes of playback.
VHS-C: EC-30 for 30 minutes of playback.

- Before loading a compact cassette, be sure the tape is not slack. If there is any slack, turn the gear on the cassette in the direction of the arrow to take up the slack.
- Avoid exposing the cassettes to direct sunlight. Keep them away from heaters.
- Avoid extreme humidity, violent vibrations or shocks, strong magnetic fields (near a motor, transformer or magnet), and dusty places.
- Place the cassettes in cassette cases and position vertically.



FEATURES

High-quality variable-speed playback and programmable playback
Developed especially for PROFESSIONAL S, JVC's advanced new Automatic Variable Tracking system offers better head-to-tape contact, greater accuracy, and higher resonance frequency than comparable systems. The result is clear, noiseless variable-speed playback at speeds from –2 to +3 times normal. In combination with the BR-S822E Editing Recorder, this system makes possible high-quality slow-motion or reverse edits with instant, jitter-free starts from still frames. Programmable playback is also featured. Using this function, playback time can be compressed and expanded in steps of 0.1 % over a range of ±20 %.

Field-by-field playback
Unlike other S-VHS players which skip every other field in the search/frame advance modes, the BR-S525E's double-azimuth variable tracking heads ensure that every field is displayed in the variable speed mode. This is invaluable in scientific and medical imaging, as well as in sports applications where field-by-field analysis is required.

Built-in TBC
The BR-S525E incorporates an advanced digital time base corrector with full-field memory capacity to eliminate timebase errors across the widest range. COMPONENT OUT connectors are provided for direct transmission of the component signal to M-II or BETACAM SP* equipment. Composite and Y/C 443 outputs are also provided.
* BETACAM SP is a trademark of Sony Corporation.

Built-in Digital Noise Reducer
The BR-S525E incorporates a high-performance digital noise reduction board which processes the digitised signals in the TBC to minimise after image and boost the S/N ratio. For luminance signal noise reduction, this DNR uses vector motion detection and compensation circuitry with an Hadamard frame recursive noise reduction circuit. A powerful non-linear noise reduction circuit and a field correlated recursive noise reduction circuit provide highly effective chroma noise reduction. The result is superior image quality with minimal picture degradation — ideal for on-air and large-screen display applications.

Newly-developed full-size/compact-compatible cassette loading mechanism
Similar in principle to the loading mechanisms employed in M-II, 3/4-inch, and other high-performance professional equipment, the BR-S525E's newly-developed cassette loading mechanism can directly accept both regular and C-sized S-VHS cassettes. The tape transport system has also been improved to provide faster search speeds and more stable transport. C-size S-VHS cassettes are already popular in image acquisition – as exemplified by the success of JVC's GY-X1 S-VHS-C camcorder – and are expected to assume a more important role in distribution, on-air transmission, and other applications.

* Technology licensed by **FAROUDJA** Laboratories.
* Employs chroma-enhancing technology co-developed by JVC and **FAROUDJA** Laboratories and modified for S-VHS applications.

High-quality pictures
S-VHS picture quality* has been improved still further with the addition of advanced circuitry including a digital DOC. Moreover, this high picture quality is maintained through multi-generational dubbing; even after as many as five generations, the results match those available from 3/4-inch equipment. For improved playback picture performance, noise reduction circuitry and switching noise masking are provided.

Fully-equipped for high-performance professional edit feeding
The BR-S525E is equipped with a comprehensive set of studio level feeder functions such as frame servo, auto H-Phase lock, and capstan bump. Search/jog dials are also provided for fast and accurate location of edit points with maximum visual search speed increased to 32x.

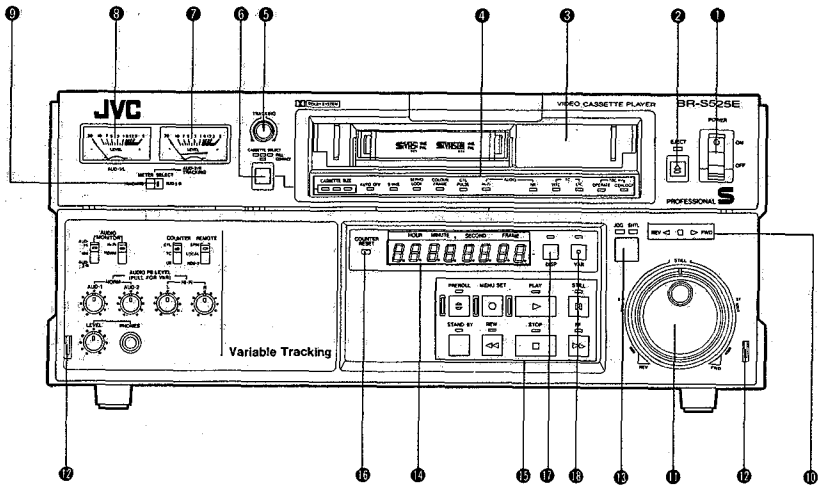
Menu Display and On-Screen Mode Check
For easy set-up and customisation, the BR-S525E features a menu display which allows simple dial setting and switching of most basic functions while referring to indications on the counter display or on-screen. As a result, many seldom-used external switches have been eliminated. Even functions normally requiring DIP switch resetting can be switched directly via the menu display. On-screen mode check and warning indications are also provided.

Other features
- RS-422 9-pin serial remote interface
- Optional plug-in time code reader (LTC/VITC)
- Hi-Fi Stereo system with a dynamic range of more than 87 dB
- Two-channel normal audio with switchable Dolby B* noise reduction
- Independent audio output level controls for all four channels
- XLR balanced audio connectors
- 2 level meters switchable between Hi-Fi and Normal audio
- 8-Digit time counter for tape position indication in either TC or CTL mode
- Jog/shuttle dials
- High-speed visual search at up to 32x (14x with C-size cassettes)
- External reference input for reference video
- Y-Frequency Response Control
- Automatic H-phase lock
- Wide-format (16:9) playback capability
- Tiltable control panel
- Heavy-duty mechanism
- Self-diagnostic warning system
- Front-access test points
- Automatic head cleaning mechanism
- 9999-hour meter switchable from tape counter
- Headphone jack with adjustable level output
- 19-inch EIA rack mount capability
- 4-Field sequence colour frame servo

* Dolby noise reduction manufactured under license from Dolby Laboratries Licencing Corporation. "Dolby" and the Double-D symbol ⧈ are trademarks of Dolby Laboratories Licensing Corporation.

CONTROLS AND CONNECTORS

FRONT PANEL



❶ **POWER switch**
- When power is ON, the time counter and level meters will be illuminated.

❷ **EJECT button with LED indicator**
- Ejects the cassette (from any mode).
- The indicator lights while the cassette is being ejected.

❸ **Cassette loading slot**
- Accepts either a compact or full-size S-VHS/VHS cassette according to the type selected with the *CASSETTE SELECT* button ❻.

❹ **LED indicators**

CASSETTE SIZE indicators
- Indicate whether the player is in the Full or Compact mode. When all three indicators are blinking, the player is ready to accept a full-size cassette. When only the center indicator is blinking, the player is ready to accept a compact cassette. Press the CASSETTE SELECT button ❻ to change modes. When a cassette is inserted, the blinking will stop and the corresponding indicator(s) will remain continuously lit.

AUTO OFF indicator
- Lights when the unit malfunctions. All controls are disabled.

S-VHS indicator
- Lights when an S-VHS or S-VHS-C cassette is inserted with the unit in the S-VHS mode, or when playing back a blank part of the tape.

TBC indicators

OPERATE: Lights when the TBC is in operation. A timebase-corrected signal is output.

GENLOCK: Lights when the TBC is in operation and locked to the external reference signal.

SERVO indicators

SERVO LOCK: Lights when the capstan and drum servos are locked to the reference signal.

CTL PULSE: Lights during playback of a tape with no control pulse recorded.

COLOUR FRAME: Lights when the capstan and drum servos are locked to PAL 4-field colour frame.

AUDIO indicators

Hi-Fi: Lights when playing back Hi-Fi-recorded tapes.

NR: Lights when the Dolby B* noise reduction circuit is set to ON (via menu item #201, ☞ p.24).

TC (TIME CODE) indicators

(with optional SA-R22E TC [time code] generator/reader installed)

LTC: Lights green when LTC-recorded tapes are played back with the normal audio-2 track set for LTC use (via menu item #206, ☞ p.25). If LTC is not picked up, the indicator lights orange. This indicator may also light when normal-audio-recorded tapes are played back.

VITC: Lights when VITC-recorded tapes are played back.

❺ **TRACKING control**
- Adjusts tracking when the PB HEAD select switch is set to "NORM". Turn in either direction until the tracking meter deflects all the way to the right.
- Normally leave in the centre click-stop position.

❻ **CASSETTE SELECT button**
- Press to select FULL or COMPACT. The corresponding indicator(s) will light. (Cassette size selection is inhibited when menu item #332 is set to "01 – ON", ☞ p.27.)

❼ **AUD-2/R (TRACKING) level meter**
- Indicates the audio level of the normal audio-2 or Hi-Fi right-channel signal during playback.
- Functions as a tracking meter during playback when the METER SELECT switch ❾ is set to TRACKING.

❽ **AUD-1/L level meter**
- Indicates the audio level of the normal audio-1 or Hi-Fi left-channel signal during playback.

❾ **METER SELECT switch**
- Switches the AUD-2/R level meter ❼ between audio level and video tracking.

AUD-2/R: Meter functions as the audio-2/Hi-Fi right-channel level meter.

TRACKING: Meter functions as a tracking meter.

❿ **Tape direction indicators**
- Indicate the current tape direction.

▷: Forward
□: Still
◁: Reverse

⓫ **JOG/SHUTTLE/VARIABLE dials**
- Dual concentric controls. The outer functions as a Shuttle/Variable ring, the inner as a Jog dial. The Jog, Shuttle and Variable-Tracking modes can be entered directly from the Play, Still, FF, REW, or Stop modes. To select the Shuttle mode or the Variable-Tracking mode, press the corresponding button (JOG/SHUTTLE or VAR).

SHUTTLE/
VARIABLE ring: (In Shuttle mode) Search speed can be varied continuously from 1/30 to 32 times normal (up to 14 times normal with C-size cassettes) in forward or reverse. Set to the centre click-stop position to engage the Still mode.
(In Variable-Tracking mode) Tape speed can be varied from –2 to +3 times normal. Noiseless variable-speed playback is available. When turned fully clockwise, tape speed is +3 times normal. When turned fully counterclockwise, tape speed is –2 times normal. Set to the centre click-stop position to engage the Still mode.

JOG dial: Manual field-by-field search in either direction. Tape speed is determined by the speed of dial rotation. Releasing the dial engages the Still mode. Also used in menu setting.

⓬ **Control panel lock release buttons**
- To tilt the control panel, press these buttons and lift the panel at the same time. The panel can be tilted to 90° and locked at angles of 25°, 50°, and 75°.

⓭ **JOG/SHUTTLE button with JOG/SHTL mode indicators**
- Activates the Shuttle mode with search speed determined by the current dial setting.

⓮ **Time counter**
- Shows tape time in hours, minutes, seconds, and frames.
- Displays user bits (with optional time code reader installed).
- Displays menu settings and warnings.
- Displays Program Playback/Variable-speed Playback tape speed.

⓯ **Operation buttons with LED indicators**

STILL button
- Displays a still picture when pressed in the Play mode.

PLAY button
- Starts playback.
- Re-starts normal playback when pressed in the Still or Search mode.
- Changes the setting of setup menu items.

PREROLL button
- Prerolls the tape by about 7 seconds. Preroll time is selectable via menu item #320 (☞ p.27).

STAND BY button
- Switches between the Standby-On and Standby-Off modes while the player is in the Stop mode. Standby-On is automatically engaged when the Stop button is pressed.

Standby-On: The tape is loaded and the drum is rotating. The indicator is lit.

Standby-Off: The tape is loaded but tape tension is reduced and the drum does not rotate. The indicator is not lit. Standby-off status is selectable via menu item #310 (☞ p.26).

REW button
- Starts rewind when pressed in any mode. Maximum REW speed is selectable via menu item #319 (☞ p.27)

STOP button
- Engages the Stop mode (Standby-On). The tape stops, but remains in the full-loaded position with the drum rotating.
- The STOP and STAND BY indicators will light.

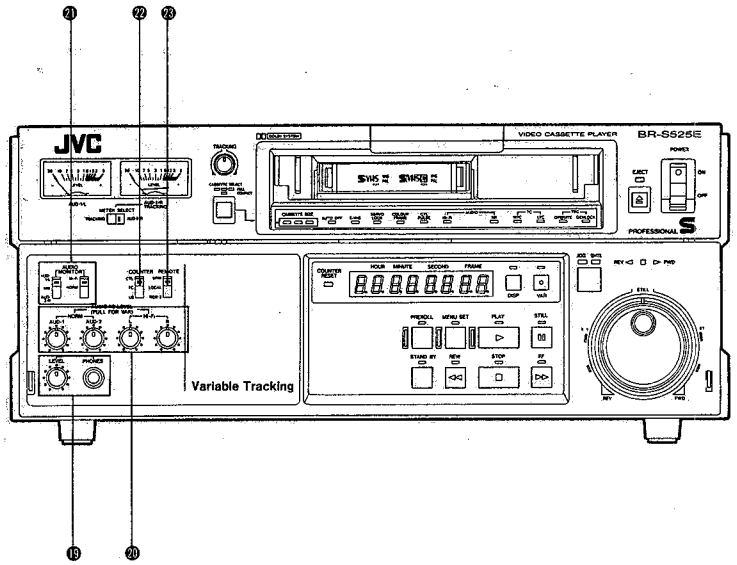
FF button
- Starts fast forward when pressed in any mode. Maximum FF speed is selectable via menu item #319 (☞ p.27)

MENU SET button
- Stores new settings for setup menu items.

⓰ **COUNTER RESET button**
- Resets the CTL counter to zero.
- The CTL counter will be reset even if this button is pressed in the TC mode.

⓱ **DISP button with LED indicator**
- Displays tape speed during Variable-speed Playback or Program Playback on the counter. Tape speed of Program Playback is indicated by percentage. (eg. –12.0: 12 % slow than normal speed) The indicator is lit. The DISP button has no effect in the Jog/Shuttle mode. Jog/Shuttle tape speed cannot be displayed.
- Press again to return to normal counter display.

⓲ **VAR button with LED indicator**
- Engages Variable-speed Playback with tape speed determined by the current dial setting if menu item #700 is set to "00 – VAR". Tape speed can be varied by turning the Shuttle dial. (☞ p.20)
- Starts Program Playback at programmed tape speed when pressed together with the Play button if menu item #700 is set to "01 – P.PLY". (☞ p.19)



⑱ PHONES jack/LEVEL control
- Connect a set of headphones to monitor sound playback.
- Adjust output level with the LEVEL control.

⑲ Hi-FI L/R and NORM AUD-1/AUD-2 AUDIO PB LEVEL controls
- To separately adjust playback levels for the Hi-Fi left/right-channel signals and the normal (linear) audio-1/2 signals. Pull and turn for adjustment.
- Optimum level is the point where the corresponding meter's peak deflection is "0".

㉑ AUDIO MONITOR select switches
- To select the audio output for the PHONES jack and the AUDIO MONITOR OUT connector.
- The Hi-FI/NORM switch also switches the audio level meters between Hi-Fi and NORMAL.

Hi-Fi: To monitor the Hi-Fi audio signals.
NORM: To monitor the normal audio signals.
AUD-1/L: To monitor the normal audio-1 or Hi-Fi left-channel signal.
MIX: To monitor the AUD-1/L and AUD-2/R signals together.
AUD-2/R: To monitor the normal audio-2 signal or Hi-Fi right-channel signal.

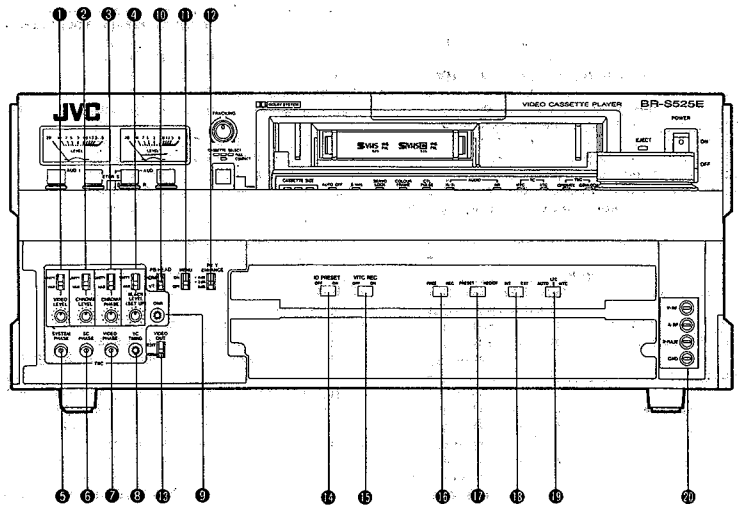
㉒ COUNTER select switch
- To select the time counter display mode with the SA-R22E TC generator/reader installed. If this is not installed, CTL signals are displayed regardless of the switch setting.

CTL: CTL signals are displayed on the time counter.
TC: Time code signals are displayed on the time counter.
UB: User bits are displayed on the time counter.

㉓ REMOTE select switch
- To select between remote and local control of the player.

9-PIN: For remote control via the rear panel 9-pin connector.
LOCAL: For direct control with the player's function buttons.
REM-2: For remote control via the optional interface.

FRONT SUB-PANEL



TBC CONTROLS
(TBC is always set to ON.)

❶ VIDEO LEVEL UNITY/VARIABLE select switch/level control

UNITY: The output signal's video level is the same as the playback signal. Normally set to this position.
VARIABLE: Allows you to adjust the output signal's video level with the VIDEO LEVEL control. Adjustment is possible within ±3 dB.

❷ CHROMA LEVEL UNITY/VARIABLE select switch/level control

UNITY: The output signal's chroma level is the same as the playback signal. Normally set to this position.
VARIABLE: Allows you to adjust the output signal's chroma level with the CHROMA LEVEL control. Adjustment is possible within ±3 dB.

❸ CHROMA PHASE UNITY/VARIABLE select switch/level control

UNITY: The output signal's chroma phase is the same as the playback signal.
VARIABLE: Allows you to adjust the output signal's chroma phase with the CHROMA PHASE control. Adjustment is possible within ±30°.

❹ BLACK LEVEL (SET UP) VARIABLE/UNITY select switch/level control

UNITY: The output signal's setup level is the same as the playback signal.
VARIABLE: Allows you to adjust the output signal's setup level with the BLACK LEVEL (SET UP) control. Adjustment is possible within ±107 mV.

❺ SYSTEM PHASE control
- Adjusts the output signal's horizontal phase with respect to that of the reference input signal. Adjustment is possible within a range of ±3 µsec.

❻ SC PHASE
- Adjusts the output signal's subcarrier phase with respect to that of the reference input signal. Up to 15 rotations are possible with continuous variation over a range of ±180°.

❼ VIDEO PHASE control
- Adjusts the output signal's video phase with respect to the playback signal's H sync. Up to 15 rotations are possible with continuous variation over a range of ±1.5 µsec.

❽ YC TIMING control
- Adjusts the output signal's C signal delay time with reference to the Y signal. Adjustable within ±500 nsec.
- Normally set to "8".

❾ DNR control
- Adjusts digital noise reduction. (☞ p.18)

⑩ PB HEAD select switch
- Selects the head in normal playback.

NORM: For playback with the fixed heads. (Set to this position for tracking adjustment.)
VT: For playback with the VT heads. Hi-Fi audio is not output except in the x1 mode.

NOTES:
- Playback heads will automatically switch to VT heads when the Jog, Shuttle or Variable-Tracking mode is engaged.
- Before playing back with VT heads, be sure to adjust the tracking first by setting the switch to "NORM".

⑪ MENU ON/OFF switch
- SET to ON to activate the On-Screen Menu. The counter display will also switch to the Menu Set mode.
- Most basic system setup operations are performed using the Menu.

⑫ PB Y ENHANCE switch
- Enhances the luminance signal for a sharper playback picture.

+4 dB: Boosts luminance signal level by 4 dB at 2.5 MHz for maximum picture sharpness.
+2 dB: Boosts luminance signal level by 2 dB at 2.5 MHz for a sharper picture.
0 dB: No effect. The same result is obtained by setting the VIDEO OUT select switch ⑬ to EDIT.

⑬ VIDEO OUT select switch

EDIT: Set to this position when using the BR-S525E as a feeder in editing. DNR function is OFF.
NORM: Normally set to this position. DNR function is ON. (☞ p.18 "DIGITAL NOISE REDUCTION ADJUSTMENT")

If noise is noticeable in the playback picture during editing or dubbing in the Variable Tracking mode, we recommend that you activate the DNR by setting the VIDEO OUT select switch to "NORM". For best results, do not do this more than once.

TIME CODE GENERATOR/READER SETTING SWITCHES
(With SA-R22E TC generator/reader installed)

Some controls in this section are associated with TC recording functions only and have no effect on the BR-S525E.

⑭ ID PRESET ON/OFF switch
- No effect.

⑮ VITC REC ON/OFF switch
- No effect.

⑯ FREE/REC switch
- No effect.

⑰ PRESET/REGEN switch

Always "REGEN" regardless of the setting of this switch.
REGEN: To output time code signal regenerated by the internal TC generator in sync with the playback time code signal. (☞ p.28, menu item #404, 405)

⑱ INT/EXT switch
- Always "INT" regardless of the setting of this switch.

⑲ AUTO/LTC/VITC switch
- To select the TC reader mode. Select the mode according to the type of reference time code with which the internal TC generator is synchronised in the Regen mode.

AUTO: For tapes with matching VITC and LTC data. Counts time codes in VITC at tape speeds lower than normal, and in LTC at speeds higher than normal. Missing sections and sections at speeds higher/lower than ±10 times normal are interpolated with CTL counts.
LTC: For LTC-only tapes or when editing with LTC data. Counts time codes in CTL at tape speeds lower than normal, and in LTC at speeds higher than normal. Missing sections and sections at speeds higher/lower than ±10 times normal are interpolated with CTL counts.
VITC: For VITC-only tapes or when editing with VITC data. Counts time codes in VITC at tape speeds lower than normal, and in CTL at speeds higher than normal. Missing sections and sections at speeds higher/lower than ±10 times normal are interpolated with CTL counts.

⑳ Test points

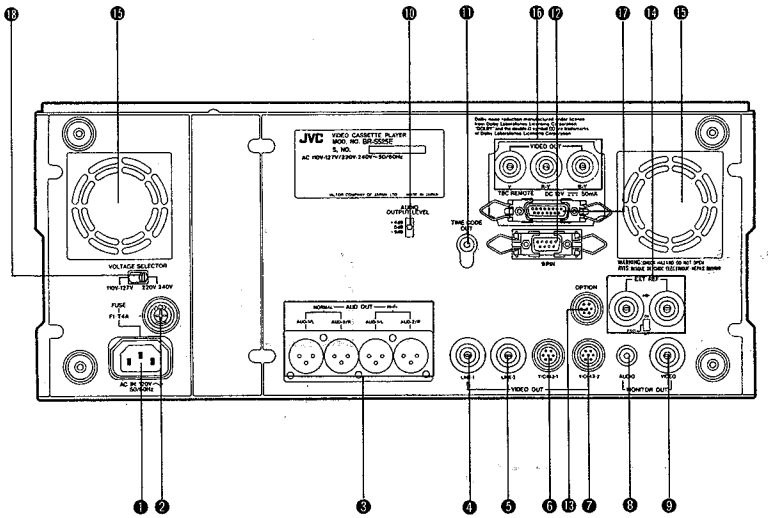
V-RF test point
- Outputs the video head FM signal during playback.
- Can be used for detection of clogged or worn heads.

A-RF test point
- Outputs the Hi-Fi audio FM signal during playback.
- Can be used for detection of clogged or worn heads.

D-PULSE pin
- Connect to the external trigger terminal of an oscilloscope.

GND
- Connect to the ground terminal of an oscilloscope.

REAR PANEL



❶ AC IN socket
- Connect to 110 – 127 V or 220 – 240 V AC, 50/60 Hz power outlet.

❷ Fuse holder

❸ Audio output connectors

AUDIO OUT NORMAL: Normal audio output connectors for Audio-1 and Audio-2.
AUDIO OUT Hi-Fi: Hi-Fi audio output connectors for Left and Right. (☞ p.24, menu item #203)

❹, ❺ VIDEO OUT LINE (1, 2) connectors
- The composite video signal is output from these connectors.

❻, ❼ VIDEO OUT Y/C443 (1, 2) connectors
- The Y/C443 signal is output from these connectors.

❽ AUDIO MONITOR OUT connector
- The audio signal selected with the AUDIO MONITOR select switches is available at this connector.

❾ VIDEO MONITOR OUT connector
- The composite video output signal is available at this connector. On-screen information is also supplied.

❿ AUDIO OUTPUT LEVEL select switch
- To select –6 dB, 0 dB, or +4 dB according to the input level of connected audio equipment. All four audio channels are switched simultaneously.

⓫ TIME CODE OUT connector
- Connect a time code reader to the OUT connector for external time code reading.

⓬ 9-PIN connector
- Connect to an RS-422 9-pin serial remote control unit or to the RS-422 9-pin connector of a recorder for swap editing.

⓭ OPTION connector
- Delivers the Y/C686/924 signal (with optional SA-E92E Output board installed) to the DUB IN connector of 3/4" U-VCR machines. (☞ p.24, menu item #102)

⓮ EXT REF connectors with 75-ohm terminating switch
- Supply the reference signal (either black burst signal or composite video) to the left connector and set the 75-ohm terminating switch to ON.
- To output a loop-through signal to another unit, set the 75-ohm terminating switch to OFF.

NOTE:
- Do not use a black-and-white signal or sync signal without burst as the reference signal, otherwise the intended synchronisation will not be obtained.

⓯ Fans

⓰ COMPONENT OUT connectors

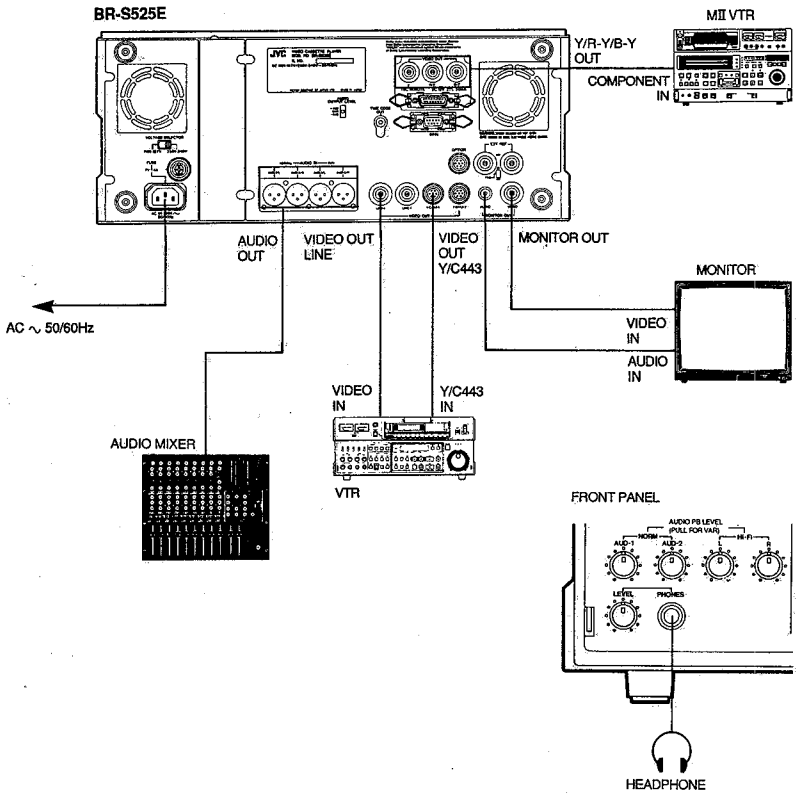
Component video signals (Y/R-Y/B-Y) are output. (☞ p.24, menu item #104)

⓱ TBC REMOTE connector (15-pin)

⓲ VOLTAGE SELECTOR
- Select voltage according to your local power supply. (Be sure the POWER is off when setting the voltage.)

CONNECTIONS

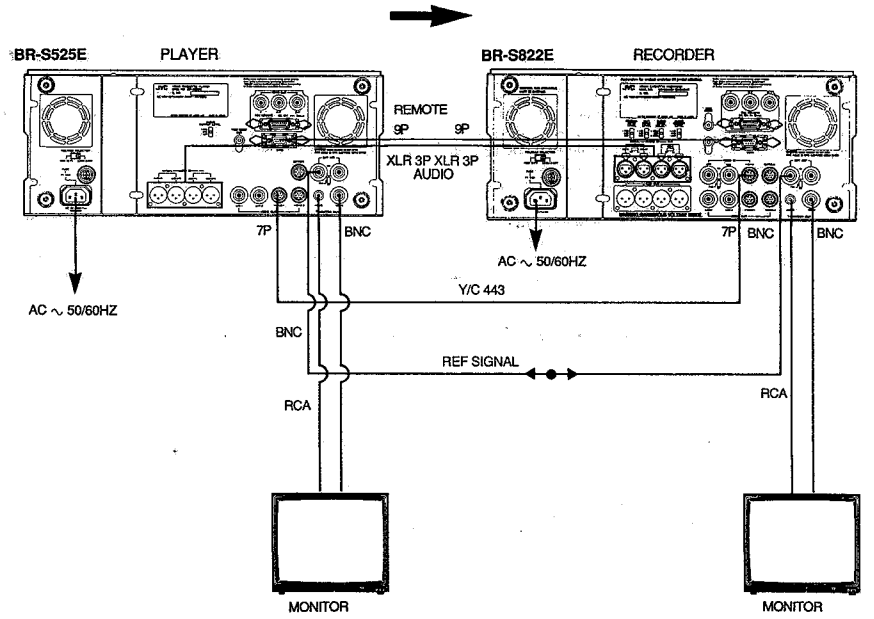
VIDEO/AUDIO CONNECTIONS



NOTES:

- To output the loop-through signal, set the 75-ohm terminating switch to OFF, otherwise set it to ON. (Be sure to terminate the signal at the last of the connected units.)
- On-screen information is output from the VIDEO MONITOR OUT connector only.
- M-II and Betacam component signals are selectable via menu item #104. (☞ p.24)

SWAP EDITING CONNECTIONS



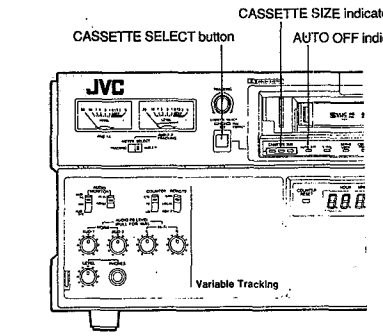
NOTES:

- For swap editing procedures, refer to the BR-S822E Editing Recorder's instruction manual.
- Variable-speed Playback cannot be controlled from the recorder.

LOADING AND UNLOADING VIDEO CASSETTES

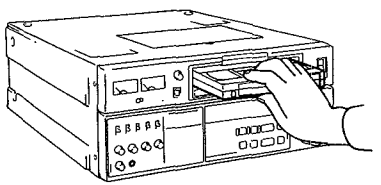
LOADING

1. Switch on the power.
2. Check the AUTO OFF indicator.
   - If this indicator lights, some abnormal condition such as condensation has occurred. All functions except Eject are disabled.
3. Check the CASSETTE SIZE indicators.
   - If you're loading a full-size cassette, be sure that all three indicators are blinking.
   - If you're loading a compact cassette, be sure that only the center indicator is blinking.
   - Press the CASSETTE SELECT button to change modes.
4. Insert a cassette with its label side facing you.
   - The cassette is automatically retracted and loaded.
   - The BR-S525E enters the Stop/Standby-On mode. The STOP and STAND BY indicators will light. In this mode, the tape is fully loaded and the head drum is rotating. The CASSETTE SIZE indicator(s) will stop blinking but remain illuminated.



NOTES:
- Be sure that the CASSETTE SIZE indicator(s) is blinking when inserting a cassette.
- Cassette size selection is not possible when menu item #332 is set to "ON" (☞ p.27).

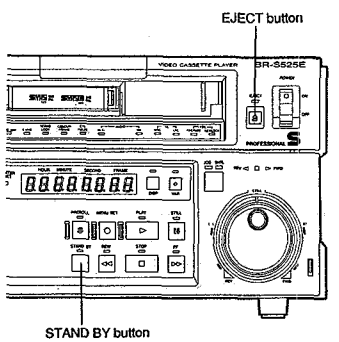
5. To cancel the Standby-On mode, press the STAND BY button.
   - The head drum will stop rotating, but the tape remains in the full-loaded position. The STAND BY indicator will go out.
   - As soon as you engage another mode (Play, Rewind, Fast Forward, etc.), the STAND BY indicator will come on again.



UNLOADING

1. Press EJECT.
   - The cassette is ejected automatically.
   - You can press the EJECT button in any mode.
2. Remove the cassette.

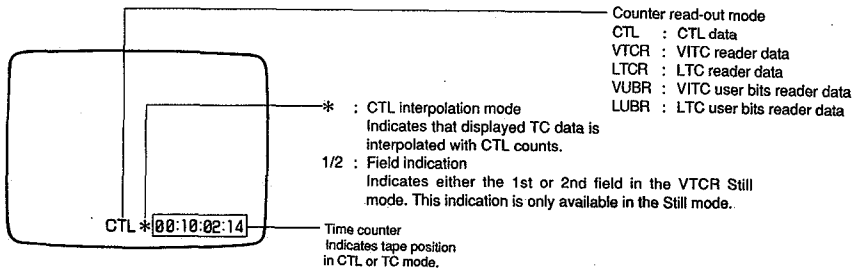
WARNING
- Do not insert fingers or foreign objects into the cassette loading slot as this may result in personal injury or damage to the mechanism.
- Do not try to remove the cassette once automatic loading has started.



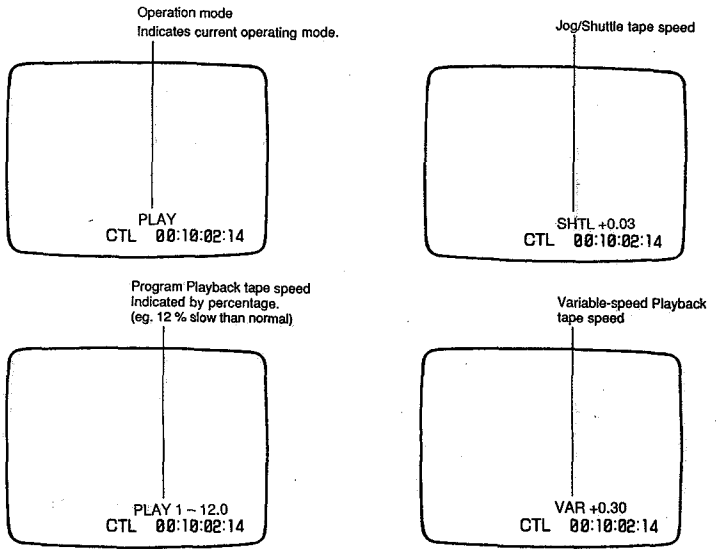
ON-SCREEN DISPLAYS

You can choose the display mode via menu setting. The time counter, operation mode and tape speed displays are available with the initial setting. You can reset the menu parameters to obtain either of the following displays.

Time counter



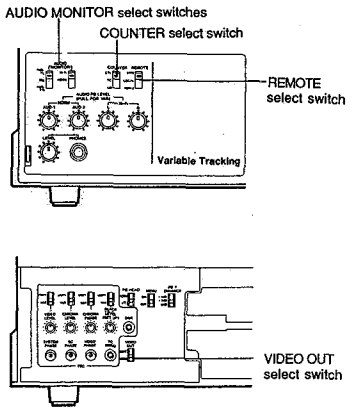
Time counter + Operation mode + Tape speed (Jog/Shuttle, Program Playback, Variable-speed Playback)



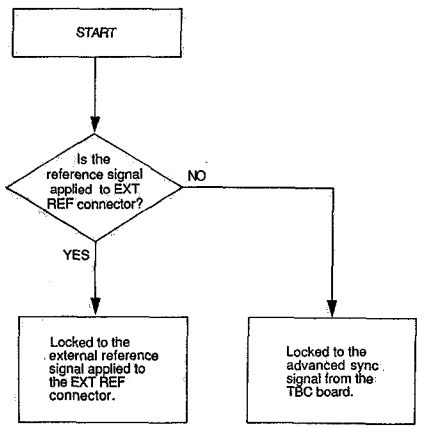
PLAYBACK

PREPARATION

1. Set the AUDIO MONITOR select switches as required. (☞ p.7)
2. Set the COUNTER select switch as required. (☞ p.7)
3. Set the VIDEO OUT select switch as required.
   NORM: for normal playback.
   EDIT: when using the BR-S525E as an edit feeder.
4. Set the REMOTE select switch as required. (☞ p.7)
5. Set menu item #201 "NORM. AUDIO DOLBY NR" as desired. (☞ p.24)



REFERENCE SIGNALS

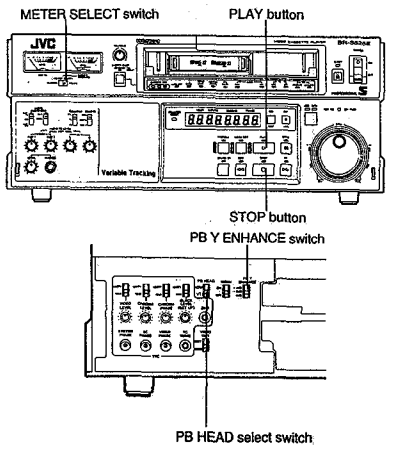


NOTES:
- Supply a reference signal containing burst to the EXT REF connector.

PROCEDURE

1. Press the PLAY button.
   - Normal playback starts.
2. Check the tracking level.
   - Set the PB HEAD select switch to "NORM".
   - Set the METER SELECT switch to TRACKING.
   - Adjust the TRACKING control until the tracking meter (AUD-2/R) deflects fully to the right.
   - Check the monitor screen to be sure that the picture is not blurred or marred by noise bars.
3. Set the PB HEAD select switch as desired. (☞ p.9)
4. Set the PB Y ENHANCE switch as required.
   - If the VIDEO OUT select switch is set to EDIT, this switch has no effect.
5. Press the STOP button to stop playback.

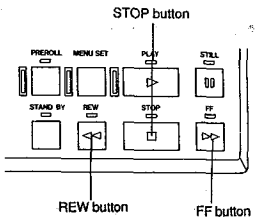
NOTES:
- LP recordings cannot be played back.
- The BR-S525E is preset to enter the Stop mode at tape end. If you want the unit to automatically rewind when the end of the tape is reached, set menu item #312 to "01 – REW". (☞ p.26)



REWIND AND FAST-FORWARD

1. To rewind the tape at high speed, press REW in any mode.
2. To advance the tape at high speed, press FF in any mode.
3. Press STOP to stop rewind or fast-forward.

NOTES:
- Maximum REW/FF speed is selectable via menu item #319 (☞ p.27)
- For information about signal output during REW/FF, refer to menu items #313, #314 (☞ p.26), and #319 (☞ p.27)



SHUTTLE SEARCH

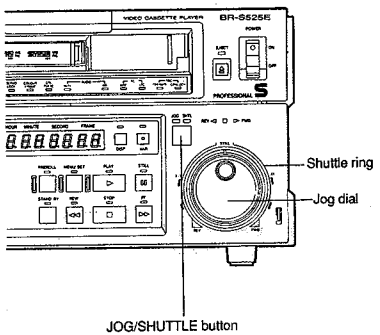
1. Press the JOG/SHUTTLE button.
   - Shuttle search starts with search speed determined by the current dial setting.
   - The SHTL indicator lights.
2. Turn the ring to adjust tape speed and direction as required.
   - The STILL position (center click-stop) provides a still picture.
   - Turn the dial clockwise to search in the forward direction; counterclockwise to search in the reverse direction.
   - The X1 click-stop provides normal speed search in the forward direction. X–1 provides normal speed search in the reverse direction.
   - Another click-stop is located between X1 and the maximum position. This provides search at 10 times normal speed.
   - When the dial is turned fully clockwise or counterclockwise, maximum search speed (about 32 times normal with full-size cassettes and 14 times normal with C-size cassettes) is provided. Noiseless search is available at speeds from –2 to +3 times normal.
   - To change modes, press the button corresponding to the desired mode (PLAY, STOP, REW, FF)
   - For immediate reactivation of the Shuttle mode at the search speed corresponding to the current dial setting, press the JOG/SHUTTLE button.

NOTES:
- Search mode is selectable via menu item #301 (☞ p.25).

JOG SEARCH

Turn the inner Jog dial to adjust tape speed and direction as required.
- The BR-S525E enters the noiseless Jog mode and the JOG indicator lights.
- Tape speed varies in relation to how quickly you turn the dial.
- When the dial is released, the VCR enters the Still mode.

NOTES:
- Leaving the BR-S525E in the Still mode for too long may damage the tape. To prevent this, the tape is automatically shifted to another video track when the Still mode continues for more than 5 minutes. (selectable with menu item #307, ☞ p.25.)



PREROLL PLAYBACK

This function allows you to cue programmes for feeding or insertion and ensures that the tape is stabilised when the picture is transmitted.
1. Locate the point where you wish playback to begin.
2. Press PREROLL.
   - The tape will rewind about 7 seconds of programme time and enter the Stop mode. (Preroll time is selectable via menu item #320, ☞p.27)
3. Press PLAY exactly 7 seconds before the scheduled insertion time.
   - Playback starts. When transmission starts, the picture will be fully stabilised.

NOTES:
- If menu item #322 is set to "01 – ENTERED", the IN point is entered automatically when the PREROLL button is pressed. Press the COUNTER RESET button to cancel entered IN point.
- Preroll function is not possible in Program Playback mode.

AUDIO PLAYBACK LEVEL ADJUSTMENT

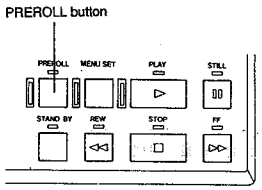
- Set the rear panel AUDIO OUTPUT LEVEL select switches to match the input signal level of connected equipment.
- Set the METER SELECT switch to AUD-2/R.
- For Hi-Fi audio level adjustment, set the AUDIO MONITOR switch to Hi-Fi and adjust the Hi-Fi AUDIO PB LEVEL L/R controls until the meters deflect to "0" at peak signal level.
- For normal audio level adjustment, set the AUDIO MONITOR switch to NORM and adjust the NORM AUDIO PB LEVEL AUD-1/AUD-2 controls until the meters deflect to "0" at peak signal level.
- The controls can be turned when pulled out.

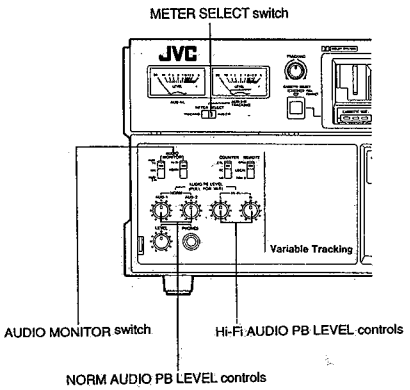
DIGITAL NOISE REDUCTION ADJUSTMENT

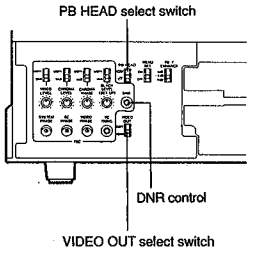
- Turn the DNR control to adjust the digital noise reduction level.
- The DNR effectiveness level gradually increases as the control is turned from "0" to "D".
- Even in the "0" position, there is some digital noise reduction. If you want to completely defeat DNR, set the VIDEO OUT select switch to "EDIT". DNR can also be cancelled in normal playback* with the following combination of settings.
  VIDEO OUT select switch set to "NORM".
  PB HEAD select switch set to "NORM".
  Menu item #602 "DNR AT NORM. PB" set to "OFF".

  * Normal playback means the Play mode engaged by pressing the PLAY button. (Playback engaged with the Shuttle dial is not included.)
- When playing back a tape with an extremely low S/N ratio, set the control to the "E" or "F" position.

NOTE:
- DNR functions only when the VIDEO OUT select switch is set to "NORM". If this switch is set to "EDIT", DNR does not function.



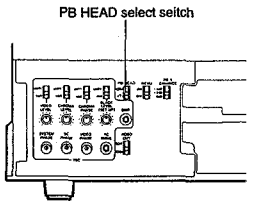




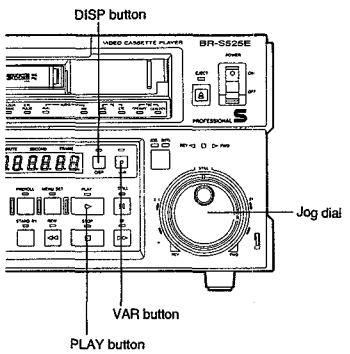
PROGRAM PLAYBACK

This mode allows you to compress or expand playback time in steps of 0.1 % over a range of ±20 %.

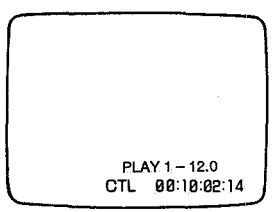
- Be sure to set the PB HEAD select switch to VT (☞ p.9)



1. Set menu item #700 to "01 – P.PLY". (☞ p.28)
2. Turn the Jog dial while pressing the VAR button to set desired tape speed.
   - Tape speed can be displayed on the counter by pressing the DISP button.



3. Press PLAY together with VAR.
   - Program Playback starts at programmed speed. (The VAR indicator lights.)
   - Tape speed is displayed on screen by percentage during Program Playback. (You can also display tape speed on the counter by pressing the DISP button.)
   - Tape speed can be changed during Program Playback by turning the Jog dial with the VAR button pressed.
4. Press any of the operation buttons to cancel this mode. (Player enters the operation mode corresponding to the button you pressed.)



NOTES:

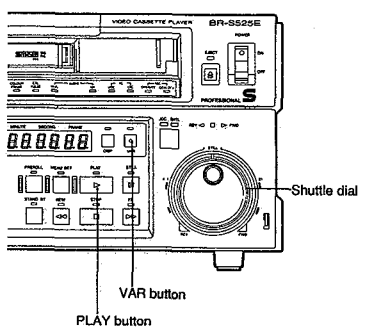
- Hi-Fi audio is not output during Program Playback except in the x1 mode.

VARIABLE-SPEED PLAYBACK

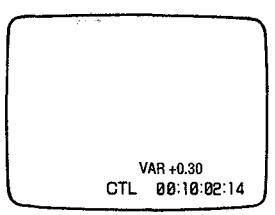
This mode ensures clear, noiseless variable-speed playback using VT (Variable Tracking) heads.

- Playback heads will automatically switch to VT heads regardless of the setting of the PB HEAD select switch.
- When the VT heads are used, the head switching point automatically switches to "PB4.5H" regardless of the setting of menu item #100.

1. Set menu item #700 to "00 – VAR". (☞ p.28)
2. Press VAR.
   - Variable-speed playback starts with tape speed determined by the current dial setting.
   - The VAR indicator lights.
3. Turn the Shuttle dial to set desired tape speed.
   - You can vary tape speeds in 73 steps from –2 to +3 times normal.
   - Tape speed is displayed on screen. (You can also display tape speed on the counter by pressing the DISP button.)
   - Click-stop positions are at –2, –1, STILL, +1, and +3.



4. To cancel this mode, press any of the operation buttons. (Player enters the operation mode corresponding to the button you pressed.)



Preset mode

1. Set menu item #301 to "00 – PRESET". (☞ p.25)
2. Press DISP.
3. Turn the Shuttle dial to set desired tape speed.
4. Press VAR in any modes to start Variable-speed Playback at the preset tape speed.
5. To cancel this mode, press any of the operation buttons.

NOTES:

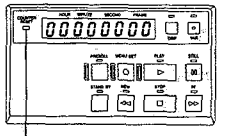
- Hi-Fi audio is not output during variable-speed playback except in the x1 mode.

COUNTER DISPLAY

The BR-S525E's time counter shows tape time in hours, minutes, seconds, and frames in both CTL and TC modes. It also displays user bits, menu settings, and warning codes. If the DISP button is the pressed in the Variable-Tracking mode, Program Playback/Variable-speed Playback tape speed is displayed.

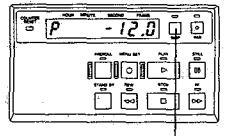
Resetting the counter
In the CTL mode, you can press the COUNTER RESET button to reset the time counter to zero.

NOTES:
- The counter cannot be reset during preroll.



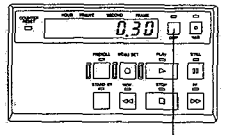
COUNTER RESET button

Program Playback tape speed display
(With menu item #700 set to "01 – P.PLY".)
- Press the DISP button in the Program Playback mode to display tape speed.
- Press again to return to the time counter.



DISP button

Variable-speed Playback tape speed display
(With menu item #700 set to "00 – VAR".)
- Press the DISP button in the Variable-speed Playback mode to display tape speed.
- Press again to return to the time counter.



DISP button

NOTES:
- For details on menu setting and warning code displays, ☞ p. 23 and p. 31.

TIME CODE/USER BITS

TIME CODE

This system simplifies location and specification of video frames by marking each frame with an 8-digit code number or "address". Essential for accurate editing, these "addresses" represent absolute tape positions and are displayed in hours, minutes, seconds, and frames, allowing you to specify exactly where edits are to start and stop by entering the IN and OUT time code values.
There are two different time code systems: LTC and VITC.

LTC (Longitudinal Time Code)
Time code addresses are recorded on a dedicated linear track by a fixed head. With the BR-S525E, the audio-2 track functions as an LTC track. (☞ p.25, menu item #206)

VITC (Vertical Interval Time Code)
The VITC is recorded during the video signal's vertical blanking period by a rotary head. Besides leaving the audio-2 channel free for editing, this permits accurate readout during still and search at speeds less than normal.

The time code used for the BR-S525E and the SA-R22E time code reader/generator conforms to the EBU standard.

USER BIT

"User bits" is a portion of the time code signal allocated to the user. It can be used to record the operator number or reel numbers.

TIME CODE EDITING

Accurate editing in reference to time code data is possible with editing suites controlled via 9-pin serial interface.
- Install the SA-R22E TC board in the BR-S525E.
- Use another VCR with TC reading capability as the recorder, eg. the BR-S822E with SA-R22E TC board installed.
- For swap editing, connect the recorder and player via 9PIN connectors. Set the COUNTER switch to TC.
- For externally controlled editing, use a 9-pin serial editing controller. Switching between TC and CTL modes can be done with the controller.

TIME CODE PLAYBACK

- When tapes with time code are played back, the rear panel TIME CODE OUT connector outputs the playback time code signal in its original form. The counter shows time code being read by the internal TC reader (with COUNTER switch set to TC).
- If you need regenerated LTC time code from the TIME CODE OUT connector, re-set menu item #405 to "01 – TCG" (☞p.28). To dub time code, or to supply the playback time code signal to another VCR, use this mode for more assured time code recording.

NOTES:
- All time code data is cleared when power is switched off.

SETUP MENU

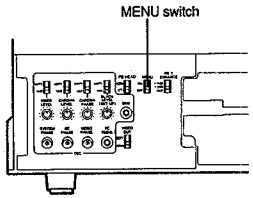
OPERATION

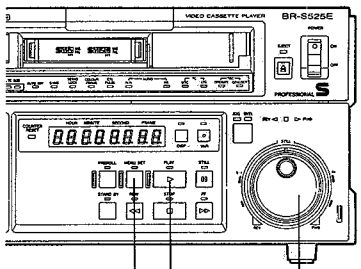
By engaging the Menu Set mode, you can cancel any preset functions that you don't require or change certain parameters as desired.

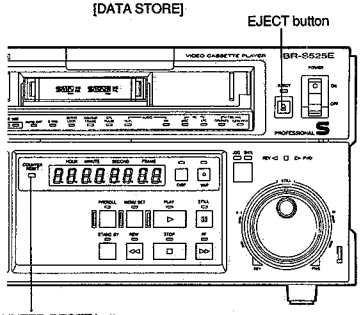
1. Set the MENU switch to ON.
   - The set-up menu appears on the monitor screen. The counter display will also switch to the Menu Set mode.
   - The Menu number (000) for the first item will blink.
2. Turn the Jog dial to locate the item you want to set.
   - Turning the dial clockwise increments the setting items (000→100→102, etc.); turning it counterclockwise, decrements the setting items.
3. When you locate an item you wish to change, press PLAY.
4. Press PLAY again to change the setting.
5. To continue setting, repeat steps 2 to 4.
6. Press MENU SET to store the new settings.
7. To exit the menu, set the MENU switch to OFF.

NOTE:

- All menu items can be automatically restored to their initial settings. To do this, first switch off the VCR's power. Then, while pressing COUNTER RESET, and EJECT simultaneously, switch on the power. Keep the buttons pressed for at least five seconds. All menu items will have been restored to their initial settings.

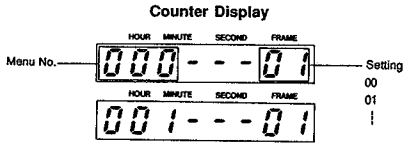




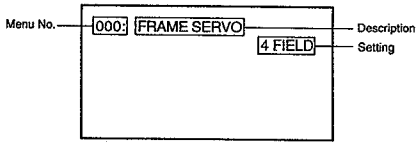


MENU SETTINGS

Counter Display



On-Screen Display



Blinking: Item ready to be set

(Initial settings are in brackets.)

Menu No.		On-Screen Description	Settings		Explanation
			Counter	On-Screen	
SERVO	000	FRAME SERVO	[01]	[4 FIELD]	4 FIELD: To use Colour Frame Servo when editing in colour frame servo mode.
			02	2 FIELD	2 FIELD: To use Frame Servo.
VIDEO	100	SWITCHING POINT	[00]	[PB4.5H]	Selects head switching point. The head switching point is automatically set to 4.5H when the VT heads are used though the preset remains the same on the display. PB4.5H: To position head switching point 4.5H ahead of V sync in playback (2H lower than normal). Normally use this setting.
			01	PB5.5H	PB5.5H: To position head switching point 5.5H ahead of V sync in playback.
	102	U-VCR Y/C MODE	[00]	[CONV.]	Selects the mode of the signal output via rear panel OPTION (Y-686/924) connector. (Effective with SA-E92E board) CONV.: To output Y-686 dubbing signal to conventional 3/4" U-VCR machines.
			01	HB/SP	HB/SP: To output Y-924 dubbing signal to 3/4" U-VCR SP or Hi-Band machines.
	104	COMPONENT OUT LEVEL	[00]	[LOW]	Selects the level of component signals output via rear panel Y/R-Y/B-Y connectors. LOW: To output component signals to MII machines.
			01	HIGH	HIGH: To output component signals to Betacam machines.
AUDIO	201	NORM. AUDIO DOLBY NR	00	OFF	OFF: To defeat Dolby NR circuit for normal audio.
			[01]	[ON]	ON: To activate Dolby NR circuit for normal audio.
	203	AUDIO OUT	[00]	[SEP.]	Selects output signals via rear panel AUDIO OUT connectors. SEP.: To output as labelled: normal audio from NORMAL AUD-1/AUD-2, Hi-Fi audio from Hi-Fi L/R.
			01	Hi-Fi	Hi-Fi: To output Hi-Fi audio from all connectors: NORMAL AUD-1 outputs Hi-Fi left-channel signal and NORMAL AUD-2 outputs Hi-Fi right-channel signal.
			02	NORM.	NORM: To output normal audio from all connectors: Hi-Fi L outputs normal audio-1 signal and Hi-Fi R outputs normal audio-2 signal.

Menu No.		On-Screen Description	Settings		Explanation
			Counter	On-Screen	
AUDIO	204	Hi-Fi OUT AT SEARCH	[00] 01	[MUTE] NORM	Selects output signals via rear panel Hi-Fi AUDIO OUT connectors during search. MUTE: To output muted Hi-Fi audio. NORM: To output normal audio.
	206	AUD-2/LTC	[00] 01	[AUD-2] LTC	Selects signals to be recorded on the normal audio-2 track. AUD-2: To play back tapes with no LTC recorded on the normal audio-2 track. LTC: To play back LTC-recorded tapes.
SYSTEM	300	DIRECT EJECT	00 [01]	DISABLE [ENABLE]	DISABLE: EJECT command is accepted only from Stop mode. ENABLE: EJECT command is accepted from any mode.
	301	SHTL DIAL SEL.	00 [01]	PRESET [DIRECT]	PRESET: The Shuttle dial functions only when the JOG/SHUTTLE or VAR button is pressed. DIRECT: The Shuttle dial functions whenever it is turned. When the dial is turned, the player enters either the Shuttle or Variable-Tracking mode depending on which was last engaged. To select the mode, press the corresponding button (JOG/SHUTTLE or VAR).
	303	WARNING INHIBIT	[00] 01	[OFF] ON	OFF: Malfunctions are detected for warning indications. Normally keep set to this position. ON: Detection of malfunctions is inhibited. No warning indication is available.
	305	REPEAT PLAY	[00] 01	[DISABLE] ENABLE	DISABLE: Repeat playback is not available. ENABLE: The entire tape is played back repeatedly until cancelled.
	306	LONG PAUSE	00 [01]	DISABLE [ENABLE]	DISABLE: To defeat Long Pause function. ENABLE: To use Long Pause function in Standby-On and Still modes. (Long Pause parameters are selected with menu items #307, #308 and #309.)
	307	LONG PAUSE TIME	00 01 02 03 04 05 06 [07]	1 SEC 10 SEC 30 SEC 1 MIN 2 MIN 3 MIN 4 MIN [5 MIN]	With menu item #306 set to ENABLE, selects the length of time before normal Pause (Standby-On and Still) mode changes to Long Pause.
	308	LONG PAUSE (STILL)	00 01 [02]	STANDBY-OFF T. RELEASE [STEP FWD]	Selects the contents of Long Pause mode. (After the time set with menu item #307 expires in Still mode, the VCR operates as specified.) STANDBY-OFF: Enters Standby-Off mode. T. RELEASE: Tension arm is released for tape protection. Still pictures continue to be available. STEP FWD: Tape advances in slow-motion for about 2 seconds (about 2 frames). This action is repeated 5 times at the time intervals set with menu item #307. The VCR enters the Standby-Off mode after the final interval.

Menu No.		On-Screen Description	Settings		Explanation
			Counter	On-Screen	
SYSTEM	309	LONG PAUSE (STOP)	[00] 01 02	[STANDBY-OFF] T. RELEASE STEP FWD	Selects the contents of Long Pause mode. (After the time set with menu item #307 expires in the Standby-On mode, the VCR operates as specified.) STANDBY-OFF: Enters Standby-Off mode. T. RELEASE: Tension arm is released for tape protection. Still pictures continue to be available. STEP FWD: Tape advances in slow-motion for about 2 seconds (about 2 frames). This action is repeated 5 times at the time intervals set with menu item #307. The VCR enters the Standby-Off mode after the final interval.
	310	STANDBY-OFF MODE	00 [01] 02	DRUM ON [DRUM OFF] UNLOAD	Selects the status of Standby-Off mode. DRUM ON: Head drum continues to rotate with tape loaded. DRUM OFF: Head drum stops rotating with tape loaded. UNLOAD: Head drum stops rotating and tape unloads.
	311	MODE AT TAPE BEGIN	[00] 01	[SHORT-FF] PLAY	Selects the mode entered when the beginning of the tape is detected. SHORT-FF: Fast-forwards the leader section and enters Standby-On mode. PLAY: Enters Play mode.
	312	MODE AT TAPE END	[00] 01	[SHORT-REW] REW	Selects the mode entered when the end of the tape is detected. SHORT-REW: Rewinds the leader section and enters Standby-On mode. REW: Rewinds to the beginning of tape and enters Standby-On or Play mode depending on the setting of menu item #311.
	313	PB•PB/BLACK	00 [01]	PB/BLACK [PB]	Selects output signal in the mode specified with menu item #314. PB/BLACK: Black signal without burst is output. PB: Outputs playback signal.
	314	PB/BLACK MODE	[00] 01	[STOP/FF/REW] STOP	Selects the modes in which playback signal is not output. STOP/FF/REW: Playback signal is not output in the Stop, FF and REW modes. STOP: Playback signal is not output in the Stop mode, but the search playback signal is output in FF and REW modes.
	315	LOCAL FUNCTION	[00] 01 02 03	[STOP,EJECT] STP,EJ,PLY,FF, RW,STL ALL ENABLE ALL DISABLE	Selects functions that can be locally operated when front panel REMOTE switch is set to 9PIN or REM-2.
	316	9PIN CMD FUNCTION	[00] 01	[ALL DISABLE] STOP, EJECT	Selects 9-pin remote control commands that are acceptable when front panel REMOTE switch is set to LOCAL. ALL DISABLE: Accepts no command from 9-pin remote control. STOP,EJECT: Accepts STOP and EJECT commands only. (Note: With some remote controls, no commands are accepted.)

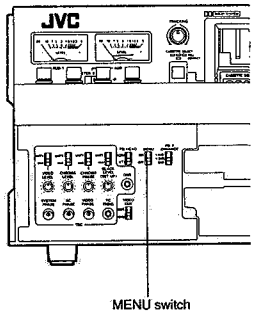
Menu No.		On-Screen Description	Settings		Explanation
			Counter	On-Screen	
SYSTEM	317	9PIN DEVICE TYPE ID	[00] 01 02 03	[JVC SVHS-1] JVC SVHS-2 OTHER TYPE-1 OTHER TYPE-2	Selects device type ID returned from VCR to 9-pin remote control in response to its request. JVC SVHS-1: To return BR-S822E's ID to 9-pin remote. JVC SVHS-2: To return SA-F911E's ID to 9-pin remote. OTHER TYPE-1: To return BVU-800's ID to 9-pin remote. OTHER TYPE-2: To return BVW-75's ID to 9-pin remote.
	318	TC DATA W/O TC BOARD	[00] 01	[TC MISSING] CTL DATA	Selects VCR's response to 9-pin remote control when remote control requests time code data when TC board is not installed. TC MISSING: VCR returns code meaning TC MISSING. CTL DATA: VCR returns substitute CTL data.
	319	TAPE MAX SPEED	[00] 01 02	[X100] X32 X16	Selects maximum tape speed. With C-size cassettes, maximum tape speed is always 14x regardless of the setting. (FF and REW speeds also correspond to this setting. In the 100x mode, playback signal is not output. In the 32x and 16x search modes, playback signal is output.)
	320	PREROLL TIME	00 ⋮ [07] ⋮ 15	0 SEC ⋮ [7 SEC] ⋮ 15 SEC	Selects preroll time in one-second steps from 0 to 15 seconds.
	321	TIME REF. FOR PREROLL	00 [01]	CTL [TC]	Selects time count reference for preroll in TC operation. CTL : Refers to CTL counts. Preroll is possible even when time codes are missing. TC : Refers to time codes.
	322	IN POINT AUTO ENTRY	[00] 01	[NOT ENTERED] ENTERED	Activates or defeats automatic IN point entry function. NOT ENTERED: IN point is not entered automatically by *pressing PREROLL button.* ENTERED: IN point is entered automatically by pressing PREROLL button if no IN point has been previously entered. (Press the COUNTER RESET button to cancel.)
	323	MODE AFTER PREROLL	[00] 01	[STOP] STILL	STOP: Enters Stop mode after preroll is completed. STILL: Enters Still mode after preroll is completed.
	325	CTL COUNTER MODE	[00] 01	[±9H] 24H	±9H: Counter shows from –9 to +9 hours in CTL mode. 24H: Counter shows from 0 to 24 hours in CTL mode.
	326	CTL COUNTER MEMORY	[00] 01	[OFF] ON	OFF: Counter memory function is not available. ON: Enters Stop mode at CTL counter reading of zero in FF and REW modes.
	327	CTL CLEAR AT EJECT	00 [01]	DISABLE [ENABLE]	DISABLE: CTL counter is not reset when cassette is ejected. ENABLE: CTL counter is reset when cassette is ejected.
	332	CASSETTE SEL. INHIBIT	[00] 01	[OFF] ON	OFF: Cassette size selection is possible with the CASSETTE SELECT button on the front panel. ON: Cassette size selection is inhibited.
	333	CF SERVO LOCK REPLY	00 [01]	DISABLE [ENABLE]	Selects information to deliver to 9-pin remote. DISABLE: Colour frame cannot be locked to 4-field colour framing mode (even if locked). ENABLE: Colour frame is locked to 4-field colour framing mode.
	334	CF RE-LOCK AT PLAY	[00] 01	[DISABLE] ENABLE	Activates or defeats colour frame re-lock function when colour frame lock is disengaged in Play mode.

Menu No.		On-Screen Description	Settings		Explanation
			Counter	On-Screen	
TIME CODE	404	TC SOURCE AT REGEN	[00] 01	[LTC] VITC	Selects the type of reference time code in the Regen mode. LTC: Reference code is LTC. VITC: Reference code is VITC.
	405	LTC OUT (REGEN)	[00] 01	[OFF TAPE] TCG	Selects output signal from TIME CODE OUT connector while playback is in progress in Regen mode. OFF TAPE: Outputs time code signal picked up from tape. TCG: Outputs time code signal regenerated by TC generator.
ON-SCREEN	500	ON-SCREEN DISPLAY	00 [01]	OFF [ON]	OFF: No data is displayed on-screen. ON: Data is displayed on-screen.
	501	CHAR. H-POSITION	[00] ⋮ 08	[0] ⋮ 8	Adjusts on-screen VCR data display position in the horizontal direction. 0 : VCR data is displayed at the rightmost position. 1 - 8: Display position shifts to the left with increasing numbers.
	502	CHAR. V-POSITION	[00] ⋮ 09	[0] ⋮ 9	Adjusts on-screen VCR data display position in the vertical direction. 0 : VCR data is displayed at the bottom of screen. 1 - 9: Display position shifts up with increasing numbers.
	503	CHAR. BACKGROUND	[00] 01 02	[BORDER] SEMI. BLACK	BORDER: Displays bordered characters. SEMI.: Displays semi-transparent characters. BLACK : Displays characters on black background.
	504	INFORMATION	00 [01]	TIME [TIME + MODE]	Selects available on-screen information. TIME: Time counter data. TIME + MODE: Time counter data, operation mode, Jog/Shuttle tape speed and Variable-speed Playback/Program Playback tape speed.
TBC	600	TBC FREEZE	[00] 01	[DISABLE] ENABLE	Selects the mode of still pictures in TBC operation. DISABLE: Outputs normal still pictures. ENABLE: Outputs 'freeze' still pictures from TBC's field memory when STILL button is pressed while in Play mode. This is effective only in LOCAL operation.
	601	V BLANK MASK	[00] 01	[OFF] ON	Activates or defeats vertical blanking interval masking function in TBC operation. OFF: No masking function. ON: Masks the entire vertical blanking interval in *playback to erase VITC.* VITC readout is impossible with this setting.
	602	DNR AT NORM. PB	00 [01]	OFF [ON]	Selects DNR operation. Only applicable in normal playback (playback engaged by pressing the PLAY button) with VIDEO OUT select switch set to "NORM" and PB HEAD select switch set to "NORM". OFF: Playback bypass DNR. ON: Playback through DNR. (DNR operation in situations other than the above is as follows: DNR is always ON if the VIDEO OUT select switch is set to "NORM". DNR is always OFF if the VIDEO OUT select switch is set to "EDIT".)
VAR	700	VAR BUTTON	[00] 01	[VAR] P.PLY	Selects the VAR button's function VAR: Variable-speed Playback. P.PLY: Program Playback.

ROM VERSION/HOUR METER DISPLAY

By engaging the Menu Set mode, you can also check the numbers of device ROMs and the hour meter.

1. Set the MENU switch to ON.
   - The set-up menu appears on the monitor screen. The counter display will also switch to the Menu Set mode.
   - The Menu number (000) for the first item will blink.
2. Turn the Jog dial to locate items with numbers in the order of 900.
   - For quicker location, turn the Jog dial counterclockwise.



Counter Display

900---01

901---01

902---01

903-0000

908-0000

909-0000

910-0000

911-0000

On-Screen Display

900:SYSCON ROM Ver.
01
901:MECHACON ROM Ver.
01
902:OPERATION ROM Ver.
01
903:SLOT ROM Ver.
NO CONNECT 00
AVM/OS ROM Ver.
04

908:POWER HOUR METER
0000H
909:DRUM HOUR METER
0000H
910:CAP HOUR METER
0000H
911:REEL HOUR METER
0000H

Menu No.	On-Screen Description	Explanation
900	SYSCON ROM Ver.	Indicates version number of SYSCON ROM.
901	MECHACON ROM Ver.	Indicates version number of MECHACON ROM.
902	OPERATION ROM Ver.	Indicates version number of OPERATION ROM.
903	SLOT ROM Ver.	Indicates version number of SLOT ROM. This item also shows the type of remote control installed in the slot. Available indications are: JVC45PIN (20 on 5th and 6th digits on counter display) RS-232C (21 on 5th and 6th digits on counter display) NO CONNECT (00 on 5th and 6th digits on counter display)
---	AVM/OS ROM Ver.	Indicates version number of AV microcomputer/on-screen ROM.
908	POWER HOUR METER	Indicates the total time (up to 4 digits in hours) the BR-S525E has been powered.
909	DRUM HOUR METER	Indicates the total working time of the drum motor in hours.
910	CAP HOUR METER	Indicates the total working time of the capstan motor in hours.
911	REEL HOUR METER	Indicates the total working time of the reel motors in hours.

CAUTION
The following menu items are for factory use only. Do not change the factory preset.
Menu item #303 WARNING INHIBIT – 00 OFF, #305 REPEAT PLAY — 00 DISABLE, and #306 LONG PAUSE – 01 ENABLE.
The manufacturer is not responsible for any malfunctions caused by changing settings.

WARNING DISPLAY

DIAGNOSTIC CODES

The WARNING display uses numerical codes to indicate various malfunctions and warnings on the counter display. Worded warning messages are provided on-screen. In some cases, power must be turned off before the machine can be recovered. When the AUTO OFF indicator lights, power must be turned on and off again before the machine can be recovered.

	AUTO OFF Indicator	Display code	WARNING (On-Screen Display)	Symptom/Operation
Sensors	YES	01	WARNING 01 LAMP FAILURE	Tape-end sensor LED burns out. The cassette will be ejected. All controls become inoperative.
	YES	02	WARNING 02 CONDENSATION ON DRUM	Moisture condensation on drum and in transport. The cassette is ejected. After ejection, the drum starts rotating and cassettes cannot be loaded until condensation has been eliminated. Do not turn the power off until the AUTO OFF indicator goes out.
	YES	08	WARNING 08 SUP TENSION FAILURE	Slack tape on the supply reel. All controls become inoperative.
Loading Mechanism		32	WARNING 32 FAILURE LOADING	Tape cannot load correctly. Tape unloads and the cassette is ejected. The display turns off when a cassette is inserted again. Normal operation is restored.
	YES	33	WARNING 33 FAILURE UNLOADING	Tape cannot unload. All controls become inoperative.
Cassette Carriage	YES	41	WARNING 41 CASSETTE EJECT FAILURE	Cassette carriage does not lift during tape ejection (even after 3 seconds have passed). All controls become inoperative.
Leader Tape Detection		56	WARNING 56 TAPE DEFECTIVE	Tape beginning and end sensors turn ON during loading because the tape is broken. The cassette is ejected. If the cassette fails to load properly, it may get stuck in the cassette slot. In this case, remove it by hand.The display turns off when an undamaged cassette is inserted. Normal operation is restored.
		57	WARNING 57 END LEADER DETECTION	Tape-end sensor turns ON during loading. Rewind mode is engaged. If the leader tape is detected within 3 seconds, the cassette is ejected. The display turns off when a cassette is inserted again. Normal operation is restored.
		58	WARNING 58 BEGIN LEADER DETECTION	Tape-beginning sensor turns ON during loading. FF mode is engaged. If the leader tape is detected within 3 seconds, the cassette is ejected. The display turns off when a cassette is inserted again. Normal operation is restored.

	AUTO OFF Indicator	Display code	WARNING (On-Screen Display)	Symptom/Operation
Rotating System	YES	70	WARNING 70 DRUM MOTOR FAILURE	Drum motor stops. All controls become inoperative. Recovers when a cassette is inserted again.
	YES	71	WARNING 71 CAP MOTOR FAILURE	Capstan motor stops. All controls become inoperative. Recovers when a cassette is inserted again.
	YES	72	WARNING 72 SUP REEL MOTOR FAILURE	Supply reel rotates abnormally. All controls become inoperative. Recovers when a cassette is inserted again.
	YES	73	WARNING 73 TU REEL MOTOR FAILURE	Take-up reel rotates abnormally. All controls become inoperative. Recovers when a cassette is inserted again.
Others	YES	04	WARNING 04 REEL SERVO FAILURE	Power supply to reel tension servo stops. All controls become inoperative.

Cassette insertion is not possible if the cassette slot remains open after cassette ejection. In this case, press the EJECT button to close the slot door, and insert the cassette again.

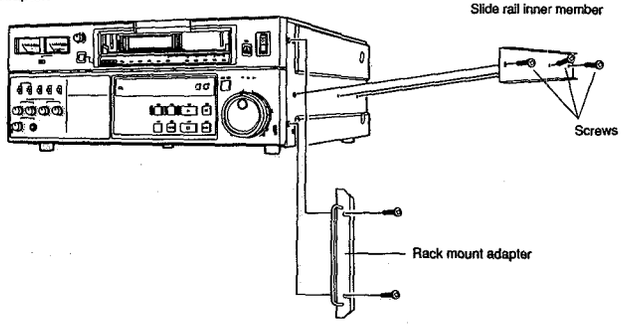
INSTALLATION

RACK MOUNTING

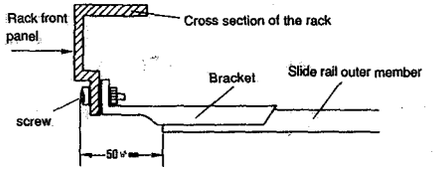
Using the optional SA-K63UB Rack Mount Adapter, you can install the BR-S525E in a 19" EIA-standard rack.

- Use a complete slide and bracket unit such as the Accuride slide and bracket unit (Part No. C-2038-22/BK-2038).
- For more details, consult your local JVC service agent.

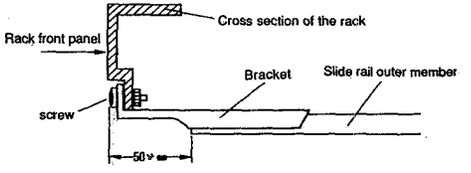
1. Attach the inner members of the slide rails with screws as illustrated. (Screws should be no more than 8 mm long.)
2. Attach the SA-K63UB rack mount adapter.



3. Attach the right and left brackets and outer members of the slide rails to the rack.
   - When installing the bracket at the back of the rack's panel surface.



   - When installing the bracket at the front of the rack's panel surface.



* Adjust the distance between the front panel and the slide rail to between 50 and 55 mm.

4. Check that the unit slides in and out smoothly.

NOTE:

- The rack mount adapter handle is only for sliding the unit. Do not carry the unit holding the handle.

TEST POINTS

The output signals from the Hi-Fi audio heads and video heads are available at the front panel test points. Connect an oscilloscope to these test points to check the BR-S525E's performance and condition.

Connection	Items to be checked	Standard waveform
Hi-Fi audio head output V-RF → To input terminal of oscilloscope A-RF → To external trigger terminal of oscilloscope D-PULSE → To ground terminal of oscilloscope GND	• Tape-to-head contact • Tape running stability • Inferior RF after head replacement	• "+" triggered CH-1 CH-2 
Video head output V-RF → To input terminal of oscilloscope A-RF → To external trigger terminal of oscilloscope D-PULSE → To ground terminal of oscilloscope GND Use a 10:1 probe	• Compatibility of tape pattern • Tape-to-head contact • Tape running stability • Tracking • Abnormality in RF	• "+" triggered CH-2 CH-1 

CONNECTOR SPECIFICATIONS

9-Pin Remote Connector

Pin No.	Signal
1	GND
2	TRANS A
3	RECEIVE B
4	GND
5	—
6	GND
7	TRANS B
8	RECEIVE A
9	GND

Y/C 443 7-Pin Connector

Pin No.	Signal
1	Y SIGNAL
2	GND (Y SIGNAL)
3	—
4	—
5	C SIGNAL
6	GND (C SIGNAL)
7	—

XLR 3-Pin Connector

Pin No.	Signal
1	GND
2	COLD
3	HOT

15-Pin TBC Remote Connector

Pin No.	Signal
1	FG
2	+12V
3	GND
4	VIDEO LEVEL
5	CHROMA LEVEL
6	CHROMA PHASE
7	SET UP LEVEL
8	RSVD DC 1
9	RSVD DC 2
10	REMOTE EN
11	FREEZE EN
12	RSVD CTL 1
13	RSVD CTL 2
14	OPERATE
15	GEN LOCK

Y-686/924 7-Pin Output (option)

Pin No.	Signal
1	Y SIGNAL
2	GND (Y SIGNAL)
3	—
4	—
5	C SIGNAL
6	GND (C SIGNAL)
7	COLOUR FRAME PULSE

SPECIFICATIONS

GENERAL

Format : VHS/S-VHS Europe standard
Power consumption : 120 W
Power requirement : AC 110 – 127 V/220 – 240 V∿, 50/60 Hz
Dimensions : 42.9 (W) X 18.8 (H) X 56.5 (D) cm
Weight : 23 kg
Operating temperature : 5°C to 40°C
Storage temperature : –20°C to 60°C
Tape speed : 23.39 mm/sec
Playback time : Max. 180 min. with JVC SE-180/E-180
Fast forward/Rewind time : Less than 2.5 min. for 180 min. tape

VIDEO

Playback : Rotary two-head helical scanning system
Luminance : FM recording
Colour signal : Phase shift, converted sub-carrier direct recording
Video signal system : PAL-type colour signal/PAL-type Y/C signal
Output
- Line : 1.0 Vp-p, 75 ohms, unbalanced
- Y/C 443 : Y: 1.0 Vp-p, 75 ohms, unbalanced
  C: 0.3 Vp-p, 75 ohms, unbalanced (Burst)

Signal-to-noise ratio : More than 46 dB (S-VHS)
(With normal heads, VIDEO OUT select switch : "NORM", DNR : "OFF")
Improvement by DNR : Luminance : 5.0 dB (max.)
Chroma AM : 10.0 dB (max.)
PM : 9.5 dB (max.)
(When the S/N ratio of the input signal is around 40 dB, the S/N ratio is improved by the levels shown above.)
Horizontal resolution : More than 400 lines (S-VHS)
More than 250 lines (VHS)
Reference video input
- Black burst or Composite video (colour bar) : 0.45 Vp-p, 75 ohms, unbalanced
  1.0 Vp-p, 75 ohms, unbalanced (loop-through with 75-ohm terminating switch)

AUDIO

Output
- Line : –6/0/+4 dBs, Low impedance, balanced (Hi-Fi/Normal)
- Monitor : –6 dBs, Low impedance, unbalanced
- Phones : ∞ to –17 dBs, 8 ohms

Signal-to-noise ratio : More than 43 dB (NR-off, Normal at 3% distortion)
Dynamic range : More than 87 dB (Hi-Fi)
Frequency response : 20 to 20,000 Hz (Hi-Fi)
40 to 12,000 Hz (Normal)
Wow & flutter : Less than 0.005% WRMS (Hi-Fi)
Less than 0.3% RMS (Normal)

TIME CODE

Output : 0 dB ± 3 dBs, Low impedance, unbalanced

CONNECTORS

Video
- Line output : BNC-type connectors
- Y/C 443 output : 7-pin connectors
- Monitor : BNC-type connector

Audio
- Hi-Fi output : XLR connectors
- Normal output : XLR connectors
- Monitor : RCA connector

Remote control : 9-pin connector
TBC remote : 15-pin connector

Design and specifications subject to change without notice.

SECTION 1
GENERAL DESCRIPTION AND DISASSEMBLY

1.1 REMOVAL OF EXTERNAL COVERS

1.1.1 Top cover

1. Remove two screws Ⓐ and lift the top cover by the rear to remove it upward.

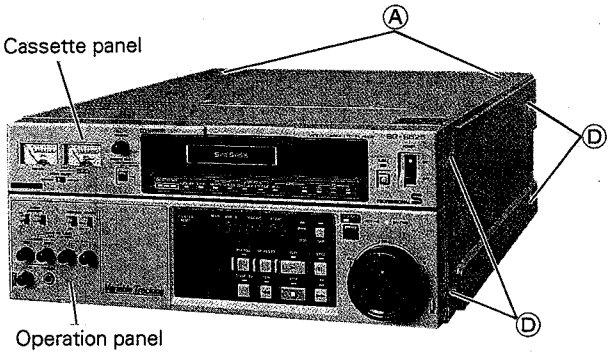


Fig. 1-1-1

1.1.2 Cassette panel (upper part of the front panel)

1. Remove the top cover.
2. Remove three screws Ⓑ and take off the top plate (L). Then lift the cassette panel diagonally frontward while removing it.
3. For removing the cassette panel entirely from the main chassis, disconnect the connector connected with the operation panel besides the relay connectors (P4, P5).

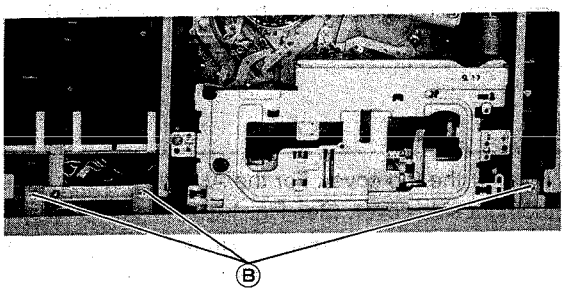


Fig. 1-1-2

1.1.3 Operation panel (low part of the front panel)

1. Remove the top cover and the cassette panel.
2. Remove two screws Ⓒ from the both sides of the operation panel.
3. Draw the connector out of the main chassis while disconnecting it.
4. Draw the operation panel frontwoard while removing it.

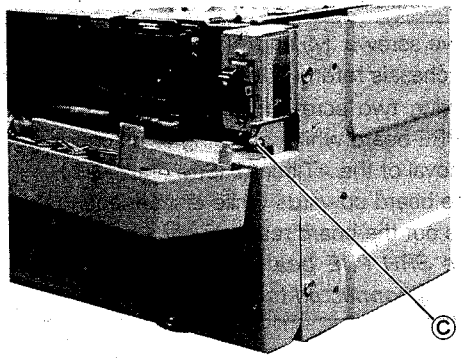


Fig. 1-1-3

1.1.4 Side covers

1. Remove the top cover and the cassette panel.
2. Remove four screws Ⓓ (see Fig. 1-1-1) and take off a side cover.
3. Remove the other side cover in the same manner.

1.1.5 Bottom cover

1. Remove the left side covers.
2. Raise the set so as to stand on its rear panel.
3. Remove five screws Ⓔ and take off the bottom cover.

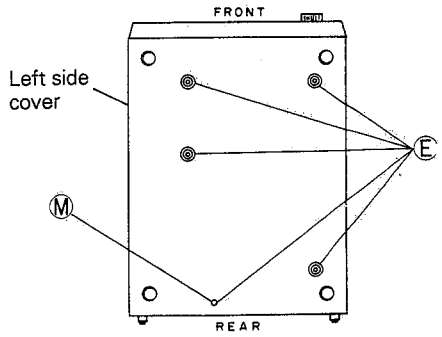


Fig. 1-1-4

1.1.6 Rear panel

– Large rear panel –

1) Remove four screws Ⓕ and two feet Ⓖ.
2) Move the large rear panel slightly leftward while removing it.

– Middle rear panel –

3) Remove two screws Ⓘ and two feet Ⓙ.
4) Move the middle rear panel slightly rightward while removing it.

Note: If it is hard to remove this, take off the side covers.

– Small rear panel –

5) Remove two screws Ⓛ to remove the small rear panel.

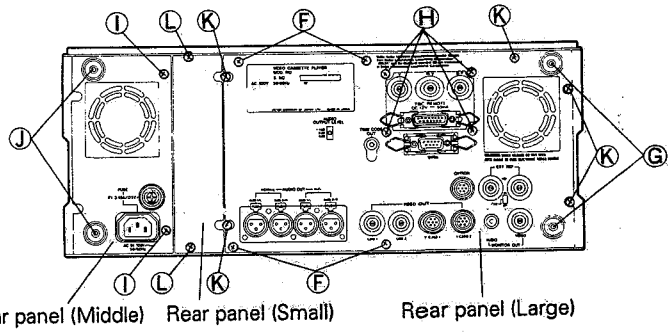


Fig. 1-1-5

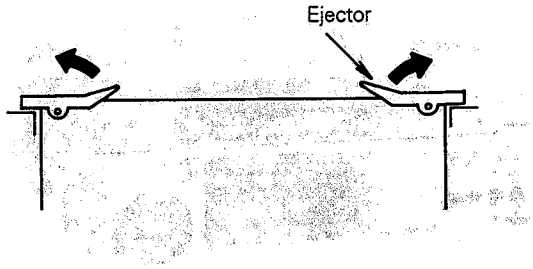
1.1.7 Rear bracket

1) Remove five screws Ⓚ (see Fig. 1-1-5).
2) Remove a screw Ⓜ (see Fig. 1-1-4), and move the rear bracket slightly leftwards while removing it.

Note: If it is hard to remove this, take off the side covers.

1.2 REMOVAL OF MAIN BOARDS

Note: • When removing/installing any circuit board, cut off the power supply beforehand.
• Make sure to reinstall any circuit board removed once as it was.

Group	Board Name	Extension Board	Removing and Resetting Manner
A	[05] FUSE [16] R/P ADJUST [17] Y COMB [19] OUTPUT [22] AUDIO-2 [23] AUDIO-3 [41] AVM/OS [61] TBC-2* [62] TBC-3* [66] U-VCR Y/C OUT (Optional)	PGJ05044	1) Remove the top cover. 2) After removing the board holder, pull up the ejector of the board for removal. 
	[10] R/P Y [11] R/P COLOR ([54] INC.) [12] R/P COLOR 2	PGJ05043	
	[60] TBC-1 ([63] INC.)*	PGJ05046(For[63])	
B	[40] SYSCON [65] TC G/R (Optional)	PGJ05043 x 2 PGJ05045(For[65])	1) Open the operation panel. 2) Remove two lock screws, and draw out the SYSCON board to remove. 3) The TC G/R board is inserted into the SYSCON board.
C	[01] MOTHER 1 [02] MOTHER 2 [30] D/C SERVO [31] M. CTL/R. SERVO	—	1) Raise the set so as to stand on its rear panel, and remove the bottom cover. 2) Proceed to do things described in "1.2.1 Group C".
D	[24] AUDIO-4 [25] AUDIO-5 [71] REAR-1 [72] REAR-2 [73] REAR-3 [74] REAR-4	—	1) Remove the rear bracket. 2) Proceed to do things described in "1.2.2 Group D".
E	[20] FMA PRE [21] AUDIO-1	—	1) Take off the top cover. For the AUDIO-1 board, remove the right side cover. (See Fig. 1-2-1.) 2) Release the hinge to unlatch the board and disconnect connectors while removing the board. (See Fig. 1-2-1.)
F	[42] OPERATION CPU [43] OPERATION KEY-1 [44] OPERATION KEY-2 [26] AUDIO-6 ([27], [28] INC.)	—	1) Open the operation panel. 2) Proceed to do things described in "1.2.3 Group F".
G	[15] PRE AMP [52] SENSOR*	—	1) Refer to the upper drum replacing procedure (1 through 6) in the subsection 2.3.4 as shown on page 2-7.
H	[67] 45 pin I/F (Optional) [55] RS-232C I/F (Optional)	PGJ05035	1) Remove two screws (L) shown in Fig. 1-1-5, and draw out the board by the knob.
I	[50] SEARCH PRE (SRH PRE)* [51] VARIABLE TRACKING (AT)*	—	1) Remove screws (M) and (N) retaining the board bracket to the chassis referring to the following description. Removing two screws (M) results in removal of the SRH PRE board while removing two screws (N) results in removal of the AT board. (See Fig. 1-2-1.) 2) Lift the board upwards while disconnecting connectors to take out the board respectively. ***Note: The SRH PRE board is connected with a board that is connected to the lower drum.***

* This board is used for only BR-S525E.

Table 1-2-1

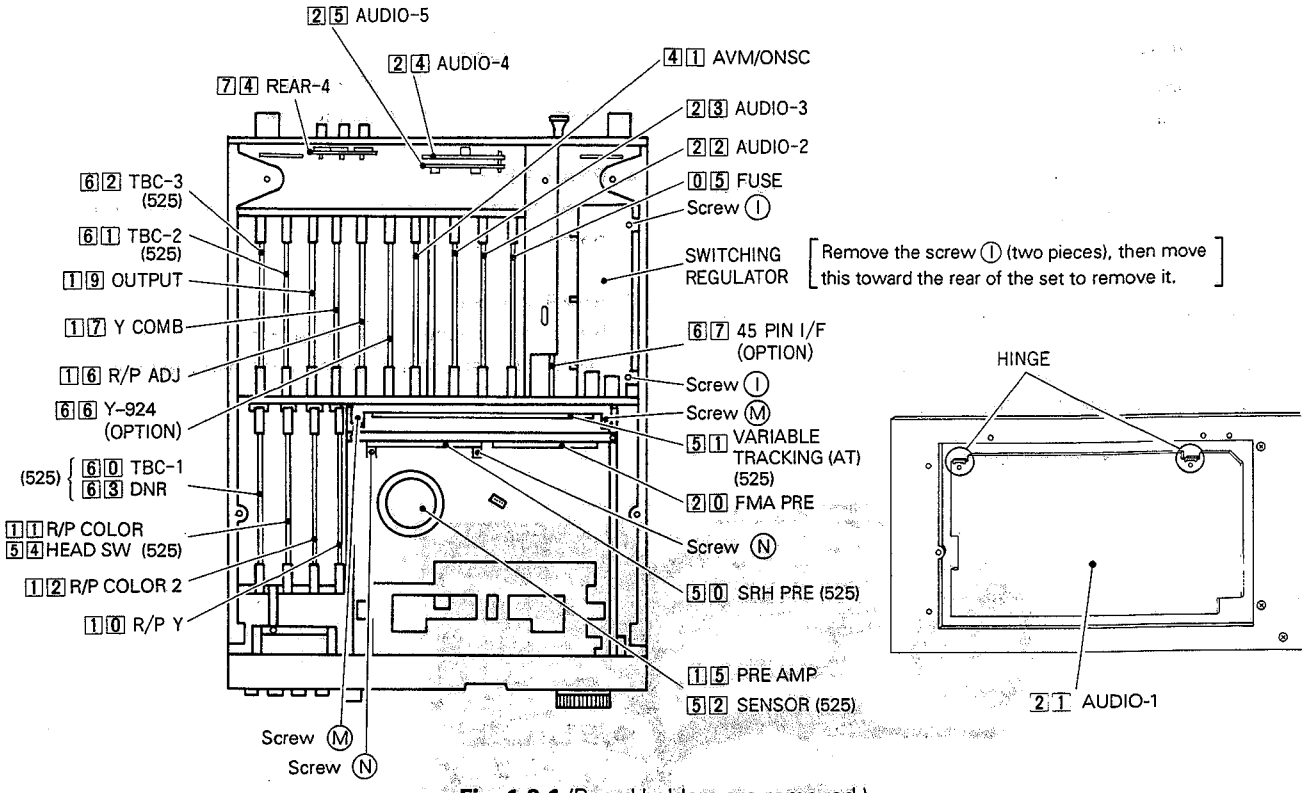


Fig. 1-2-1 (Board holders are removed.)

1.2.1 Group C

1. D/C SERVO board and M. CTL/R. SERVO board

1) With the operation panel opened, raise the set on its rear.
2) Remove two screws Ⓐ and tilt the board frontward.
3) Remove four screws Ⓑ retaining the boards and brackets and disconnect connectors. Then, the D/C SERVO board and the M. CTL/R. SERVO board can be removed.

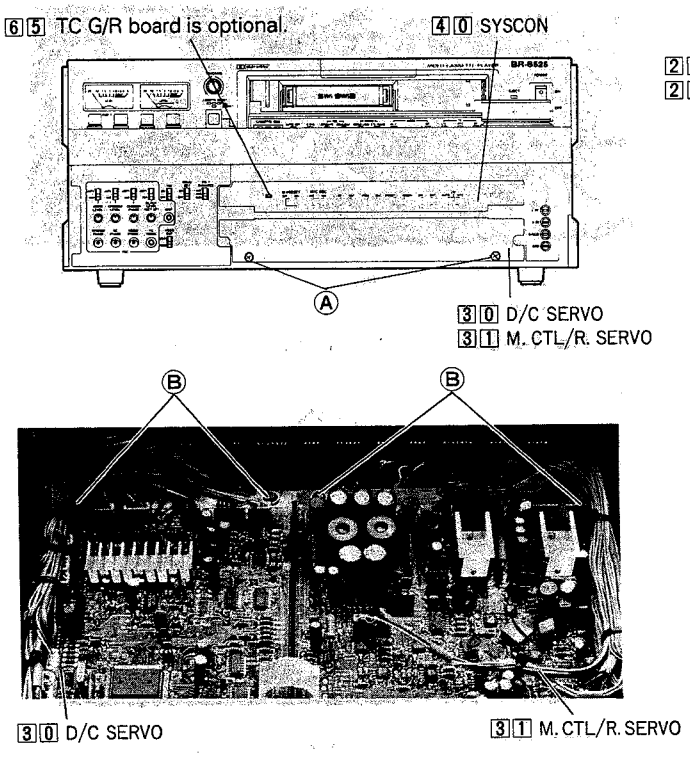


Fig. 1-2-2

2. MOTHER 1 board and MOTHER 2 board

1) Remove all boards belonging to the Group A.
2) Remove twelve screws Ⓒ and connectors to remove the boards.

Note: The MOTHER 1 and the MOTHER 2 boards are connected with a flat cable.

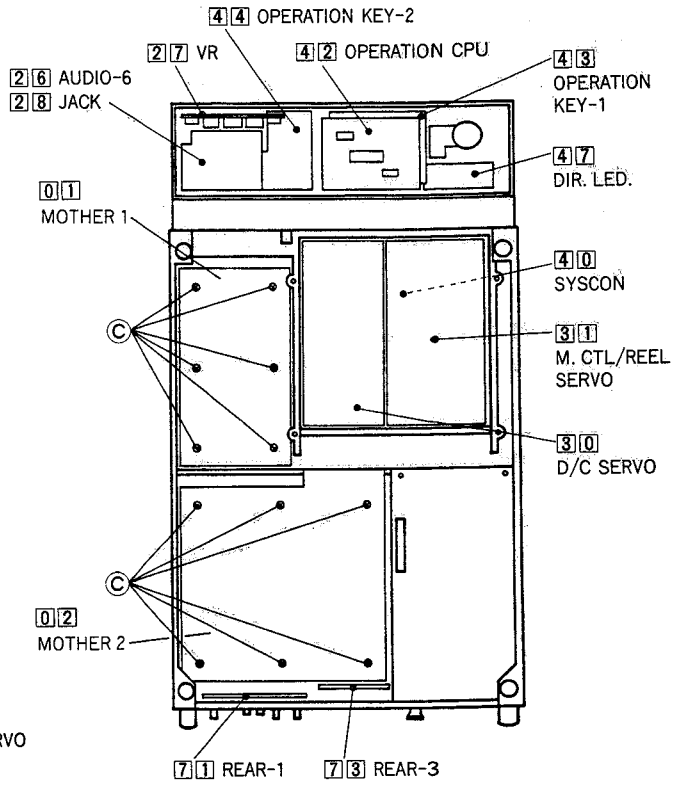


Fig. 1-2-3

1.2.2 Group D

1. AUDIO-5 board and AUDIO-4 board
1) Remove spacers from the four corners and disconnect connectors. Then remove the AUDIO-5 board.
2) After the AUDIO-5 board has been removed, remove three screws to remove the AUDIO-4 board.

2. REAR-1 board
1) Unsolder connectors (5 points for BNC, 1 for RCA and 3 for Y/C).
2) Remove a screw Ⓕ retaining the board.
3) Disconnect all connectors and remove the board.

3. REAR-2 board
1) Unsolder the TIME CODE OUT.
2) Unsolder the 9-pin connector and remove the board.

4. REAR-3 board
1) Unsolder the XLR connector (at 4 points) and remove the board.

5. REAR-4 board
1) Remove four screws Ⓗ . (See Fig. 1-1-5)
2) Disconnect all connectors and remove the board.

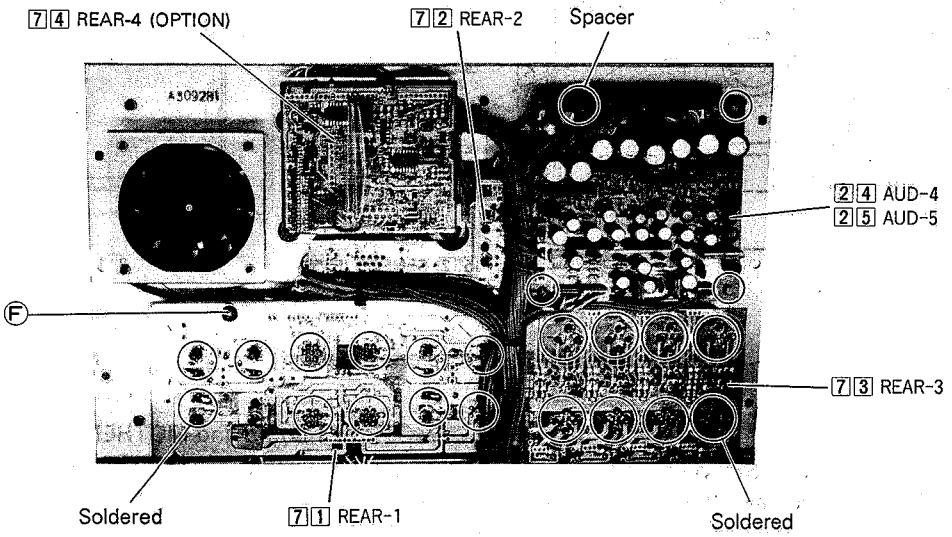


Fig. 1-2-4

1.2.3 Group F

1. OPERATION CPU board
1) Remove four screws Ⓘ and the board cover.
2) Disconnect related connectors and remove the board.

2. OPERATION KEY-1 board
1) Remove the OPERATION CPU board.
2) Remove seven screws retaining the OPERATION KEY-1 board.

3. OPERATION KEY-2 board
1) Remove five screws Ⓙ retaining the board cover to remove it.
2) Remove the AUDIO-6 board.
3) Disconnect related connectors and remove the board.

4. AUDIO-6 board (2 7 JACK, 2 8 VR INC.)
1) Remove five screws Ⓙ retaining the board cover to remove it.
2) Disconnect the connector connected with the screws (2 points for Ⓛ, 1 for Ⓚ) and remove the board.

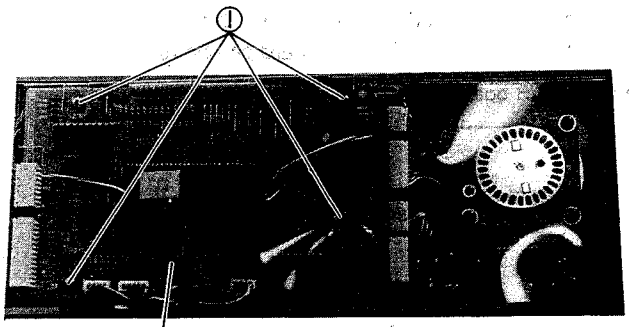


Fig. 1-2-5 (A) (Actually equipped with black cover)

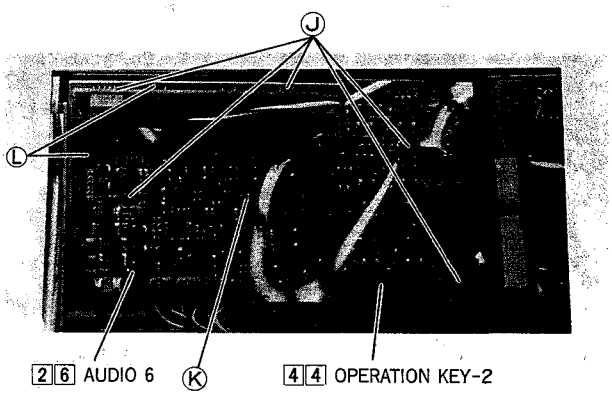


Fig. 1-2-5 (B) (Actually equipped with black cover)

1.3 INTERNAL SWITCHES

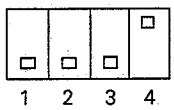
Note: • For location of respective switches, see "Location of test points and adjustment parts" at the back of the section 3.
• Numeral and alphabet in parentheses (3 F, for example) following a symbol number indicates the section where the parts is located in the board.

1.3.1 Function of switch

[1][0] R/P Y

Symbol No.	Switch Name	Setting at Shipment	Function
S1 (4 I)	DOC switch	S1 OFF [□] ON	ON : DOC circuit is activated except in SEARCH mode. OFF : DOC circuit is inactivated.
S2 (7 E) (BR-S522E)	SW POINT MASK switch	S2 ON [□] OFF	ON : SW point MASK circuit is activated. OFF : SW point MASK circuit is inactivated.

[1][1] R/P COLOR ([5][4] HEAD SW : BR-S525E)

Symbol No.	Switch Name	Setting at Shipment	Function
SW501-1 -2 -3 -4	*WINDOW GATE pulse timing select switch	ON  1 2 3 4 Don't change the setting.	• WINDOW GATE pulse stop point SW501 (1, 2) / LINE No. (1st field/2nd field) OFF OFF 312/625 OFF ON 311/624 ON OFF 310/623 ON ON 309/622 • WINDOW GATE pulse start point SW501 (3, 4) / LINE No. (1st field/2nd field) OFF OFF 303/616 OFF ON 301/614 ON OFF 299/612 ON ON 297/610
SW502	Switching point fixing switch	SW502 [□] HSW FF	HSW: Switching point is constant regardless of change of DRUM FF when DRUM FF is positioned in the WINDOW GATE pulse. FF : Switching point is not constant.

* Refer to the section "3.6.5 Switching point fixing circuit" of BR-S525E technical guide (No. T-9026) regarding "WINDOW GATE pulse".

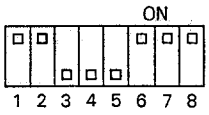
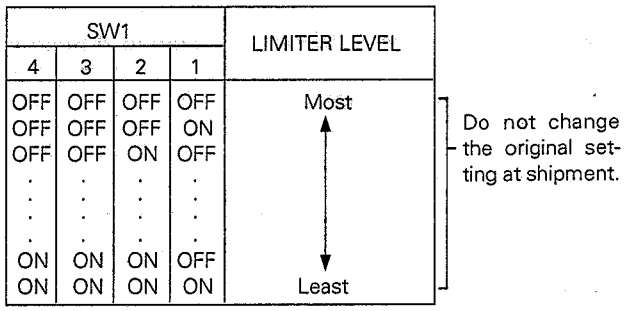
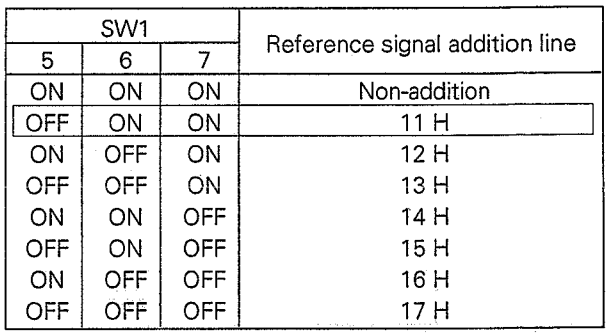
[1][2] R/P COLOR 2

Symbol No.	Switch Name	Setting at Shipment	Function
S1 (1B)	Adjusting switch	SW1 OFF [□] ON	To be used REF. burst adjustment.
SW301(A3)	Adjusting switch	Changeable (Set by adjustment.)	To be used in P. burst phase detect adjustment mode.
SW302 (2C)	Adjusting switch	SW302 ADJ. [□] NORM	For adjusting mode of cross talk cancel circuit.
SW303 (2D)	Adjusting switch	SW303 ADJ. [□] NORM	For adjusting mode of cross talk cancel circuit.
SW1 (SW-1 board only 525E)	Forced C.T.C. switch	SW1 OFF [□] ON	ON : C.T.C. circuit is inactivated in a range from –1X to –2X tape speed. OFF : C.T.C. circuit is always activated.

16 R/P ADJUST

Symbol No.	Switch Name	Setting at Shipment	Function
S2 (4 E) (BR-S525E)	Adjusting switch	S2 RAP 2 ☐ RAP 1	Effective with S1 set to RAP position RAP 1 : For adjusting mode of CH-1 head. RAP 2 : For adjusting mode of CH-2 head.

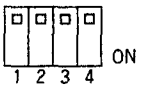
17 Y COMB

Symbol No.	Switch Name	Setting at Shipment	Function
SW1-1 (7 I) 1-2 1-3 1-4	PB Y COMB FILTER LIMTTER LEVEL setting switch	S1  	
1-5 1-6 1-7	REF. SIGNAL LINE SELECT switch		
1-8	Not used		• In Recording Select a reference signal addition line for the AUTO EQ circuit with S1-5, S1-6, S1-7. When the default line (11 H) is in use, select another line referring to the above table. • In Playback Set these switches for the line used to record reference signal for the AUTO EQ circuit.
SW2 (7 E)	COMB FILTER swtich	S2 NOR ☐ ADJ.	NOR : To activate comb filter always. ADJ. : To inactivate comb filter at all.

19 OUTPUT

Symbol No.	Switch Name	Setting at Shipment	Function
SW1 (8 I)	AUTO EQ switch	SW1 AUTO ◻ MANU	AUTO : In S-VHS playback mode, if reference signal is recorded on the line selected by S1-5, -6 and -7 of 17 Y COMB board, AUTO EQ functions. MANU : AUTO EQ does not function. Normally set to AUTO position.
D5 (10 I)	AUTO EQ REF. SIGNAL DETECTION LED	—	In S-VHS playback mode, if reference signal is recorded on the line selected by S1-5, -6 and -7 of 17 Y COMB board, AUTO EQ REF. SIGNAL DET. LED lights regardless of SW1 setting.

31 M. CTL & R. SERVO

Symbol No.	Switch Name	Setting at Shipment	Function
SW1	Adjusting switch	SW1  	Normally set SW1 to OFF. When power is turned on after SW1 was set, mode changes as shown in the following table. ***Note: If power is turned on with SW1 set on all, adjustment data of R. SERVO circuit will be initialized. On such an occasion, readjust R. SERVO circuit again (see 2.5).***
SW2	Tact switch for adjustment	—	To be used in adjustment mode. To raise/decline torque and to set data in adjustment modes set by SW1. Also used to roll up tape in emergency roll mode.

1	2	3	4	Mode
				Normal operation
ON				Load end stop mode, Reel FG duty adjustment mode
	ON			F. cassette loading torque check mode
ON	ON			Play back tension adjustment mode, Warning tension setting mode
		ON		C. cassette loading torque data setting mode (Up)
ON		ON		C. cassette loading torque data setting mode (Down)
	ON	ON		Inhibit
ON	ON	ON		Inhibit
			ON	Emergency roll mode
ON			ON	Inhibit
	ON		ON	Inhibit
ON	ON		ON	Inhibit
		ON	ON	Reverse torque data setting mode (Up)
ON		ON	ON	Reverse torque data setting mode (Down)
	ON	ON	ON	Starting torque check mode
ON	ON	ON	ON	Single unit adjustment mode (To initialize adjustment data)

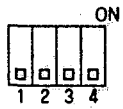
[5][1] VARIABLE TRACKING (BR-S525E)

S8	S7	S6	S5	S4	S3	S2	S1	Function
OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	Forced head drive without cassette loaded ON (Setting for adjustment only)
OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF	(Not used)
OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF	Sine wave (30 Hz) output (To drive VCM with sine wave. In this operation, head position is controlled by open loop.) (Setting for operation check and adjustment only)
OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF	(Not used)
OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF	1/2 track shift (Setting for checking fine tracking operation)
OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF	Fine tracking control OFF
OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF	(Not used)
ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	Head drive control OFF (for factory use only)
OFF	OFF	OFF	OFF	ON	ON	ON	ON	Unit adjustment mode (for factory use only) (Do not operate the set with this setting. If operated with this setting, it may result in various malfunctions since the serial bus data is also used as unit adjustment fixture at the factory.)
OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	Initial setting at shipment

[5][1] VARIABLE TRACKING (BR-S525E)

LED No.	Function
D1	ON with abnormal head drive
D2	ON in VT operation
D3	ON when the head selection signal selects the leading head
D4	ON in operation of fine tracking

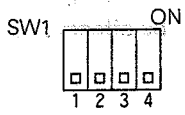
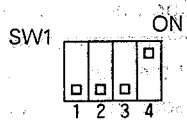
[6][0] TBC-1 (SA-T22E: Optional for BR-S522E)

Symbol No.	Switch Name	Setting at Shipment	Function
SW1 (41)	Adjusting switch (Y/C TIMING)	—	Refer to Item No. 14 "Y/C timing adjustment" of TBC-1 circuit in SA-T22E SERVICE MANUAL (No. 9265)
SW2-1 (9H)	NTSC V. BLANKING PERIOD SELECT switch	SW2  	To set V. blanking period on TBC circuit as follows. ON : WIDE (20 H) OFF : NARROW (19 H)
SW2-2	NTSC/PAL		ON : NTSC OFF : PAL (Make sure to set to OFF.)
SW2-3	Not used		—
SW2-4	Not used		—

6 1 TBC-2 (SA-T22E: Optional for BR-S522E)

Symbol No.	Switch Name	Setting at Shipment	Function
SW1 (1D)	Adjusting switch	SW1 ADJ ▭ NOR	NOR : For normal operation ADJ : For adjustment mode Normally set to NOR position.

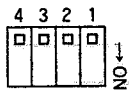
6 2 TBC-3 (SA-T22E: Optional for BR-S522E)

Symbol No.	Switch Name	Setting at Shipment	Function
SW1-1 (3H)	Adjusting switch	• BR-S525E 	ON : For decoder adjustment mode OFF : For normal operation Normally set to OFF position.
SW1-2	SYNC DETECT MODE switch		ON : For period detection mode OFF : For width detection mode and period detection mode
		• BR-S522E (SA-T22E)	
SW1-3	W. CLOCK SELECT (1)		ON : For AFC mode OFF : For selection mode to affect SW1-4
SW1-4	W. CLOCK SELECT (2)		With SW1-3 set to OFF: ON : For APC mode OFF : For AFC-APC automatic selection mode

6 3 DNR (SA-N22W: Optional for BR-S522E)

Symbol No.	Switch Name	Setting at Shipment	Function
SW1	CNR limitter lever select switch	4	Don't disturb the setting of SW1 unless otherwise indicated, because SW1 has been carefully set to the optimum position at shipment from the factory.

6 5 TIME CODE G/R (SA-R22E optional)

Symbol No.	Switch Name	Setting at Shipment	Function
S8-1 (13A)	VITC position change switch	S8 	For changing VITC position in horizontal direction. Do not change the setting without reason.
S8-2	UNDEFINED BIT OPERATION switch	(Showing the state of S8 built in SYSCON board)	Bit 58 is not defined for LTC while bit 74 is not defined for VITC. These bits are regarded as "0" until they are defined by SMPTE. ON : "1" OFF : "0" Make sure to set this switch to OFF position usually.
S8-3	Not used		—
S8-4	ERROR BYPASS ON/OFF		ON : To activate the error bypass circuit OFF : To inactivate the error bypass circuit

1.4 MEMORY SWITCH

Mode setting of this model can be operated with the memory switch, which the hour meter is built in.
For operation of the memory switch, refer to the instructions (page 23 through 30 [525], page 19 through 26 [522])

1.4.1 Initialization of memory switch

To initialize the memory switch as it was at shipment, proceed to do the following steps.

1. Eject the cassette tape and turn off the power switch.
2. Press the EJECT button and the COUNTER RESET button simultaneously over 5 sec while turning on the power switch.
3. The memory switch is initialized as it was set at shipment.
   Note: In the above step 2, if the both buttons are held depressed for less than 5 seconds, it may cause malfunction of the set.

1.4.2 How to escape memory switch

Since this model is capable of customizing the memory switch setting for user's convenience and special purpose, it is required to store the user's custom setting (if any) before proceeding to do service work and to restore the stored data to the original setting after servicing.
The following explains how to store data of user's custom setting and to call it again.

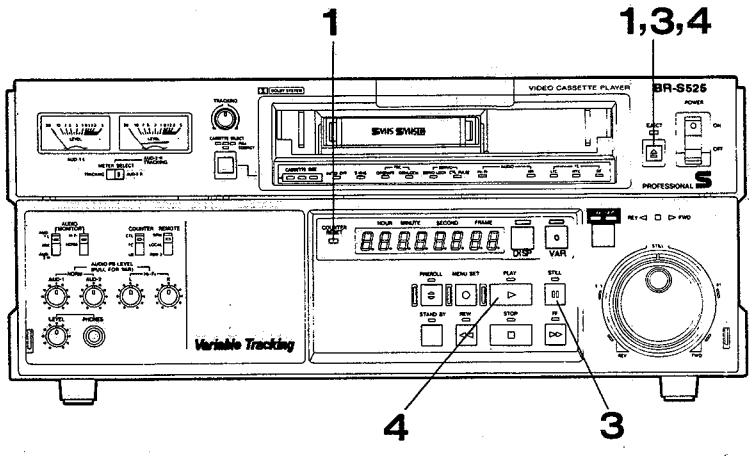
1. Storing data of custom setting
1) Set the menu switch to OFF.
2) Press the EJECT button to eject the cassette tape and turn off the power once.
3) Adjust press the EJECT button together with the STILL button while turn on the power.
4) The whole data of the memory switch are stored.

2. Calling stored data
1) Set the menu switch to OFF.
2) Press the EJECT button to eject the cassette tape and turn off the power once.
3) Adjust press the EJECT button together with the PLAY button while turn on the power.
4) The stored data of the memory switch are restored to be effective.

1.4.3 Iindication of ROM and microcomputer versions

Operation manner of the set to indicate versions of microcomputer system and other ROMs is the same as that of the memory switches. For memory switch operation, see pages 29 ~ 30 (525), 25 ~ 26 (522) of the instructions.

Memory SW No.	Board Name	Symbol No.	Part No. and Version No. (XX)
900	[4][0] SYSCON	IC2	PGD30620-2-XX (BR-S522E)
			PGD30620-4-XX (BR-S525E)
901	[3][1] M.CTL & R.SERVO	IC1	PGD30241-10-XX (BR-S522E)
			PGD30241-11-XX (BR-S525E)
902	[4][2] OPERATION CPU	IC1	UPD78P214CW-011 (BR-S522E)
			UPD78P214CW-013 (BR-S525E)
903	[6][7] 45PIN I/F	IC1	UPD75P116CW-4XX
	[5][5] RS-232C I/F	IC16	PGD30240-12-XX
–	[4][1] AVM/OS	IC13	UPD75P116CW-314 (BR-S522E)
			UPD75P116CW-8XX (BR-S525E)



1. For presetting memory switch
3. For escapement of memory switch (for storing data)
4. For escapement of memory switch (for restoring data)

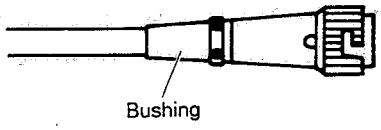
1.5 7-PIN CABLE

There are two kinds of Y/C OUTPUT connectors provided for this model; namely, the Y/C443 OUTPUT and the Y/C924 OUTPUT (for use of optional SA-E92E).
When this set is used as a playback machine, use any cable of the following.

* 11 series : BR-S811/S611/S711/S411

	Part No.	Wiring diagram and Color of bushing	Main applicable models
Y/C443 output cable	VC-G10XXU (optional) or PGZ00793-006	Diagram ② Blue	BR-S822/S622 BR-S522 BR-S525 11 series * KR-M800/M820
	PGZ00752-01-01 (service part)	Diagram ① Red	
Y/C924 output cable	PGZ00752-01-01 (service part)	Diagram ① Red	BR-S822/S622 BR-S522 BR-S525

Note: Do not use these cables for any set other than those specified above as applicable models. If so, characteristics of the set becomes different from the original.



● **Internal wiring of cable**

Diagram ①

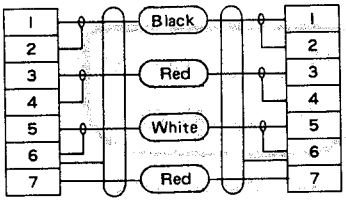
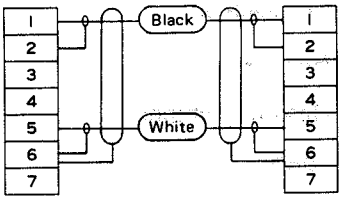


Diagram ②



1.6 WHEN IN TROUBLE

1.6.1 To take cassette out of set manually

If a loaded tape cannot be ejected because of electrical failure, etc., take it out in the following two manners.

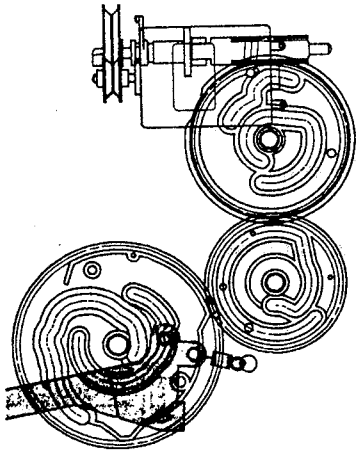
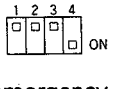


Fig. 1-6-1 F cassette unloading end position

① Use emergency roll mode.

1. Turn off the power and remove the top cover.
2. Open the operation panel and set SW1-4 on [3][1] M. CTL & R. SERVO board to ON.



3. Turn on the power and the mode becomes to emergency roll mode.
4. Depress the tact switch SW2 on the M. CTL board while rotating the loading motor clockwise. The mechanism starts unloading while taking in the slack of the tape.
5. After the mechanism returns to the unloading end position, turn the gear of the cassette housing clockwise and take out the cassette tape. If it is hard to turn the gear, remove the cassette panel and do the same.

② Manually

1. Remove the top cover (see 1.1.1).
2. Remove the cassette panel (see 1.1.2).
3. Use a ruler etc., insert it between a cassette tape and main-deck and rotate the SP. reel disk counter-clock wise while rotating the loading motor clockwise. The mechanism starts unloading while taking in the slack of tape.
4. After the mechanism returns to the unloading end position, turn the gear of the cassette housing clockwise and take out the cassette tape.

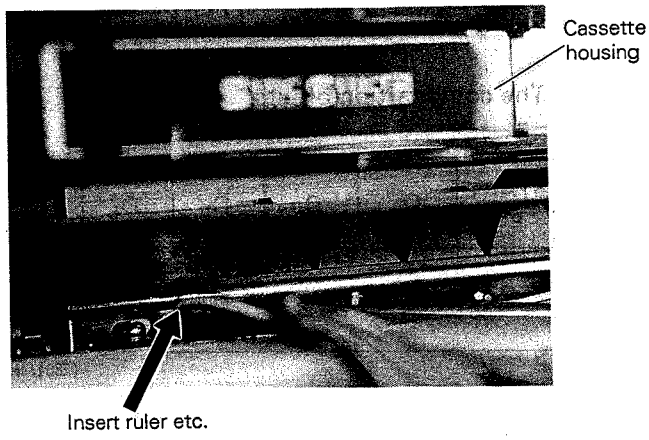


Fig. 1-6-2

1.7 PROTOCOL OF 9-PIN REMOTE CONNECTOR

In this section, the following is the contents of the remote control signal which is used for 9-pin connector of the PROFESSIONAL S22 series (We will call the 22 series in the followings.).

In this protocol, it is defined that the CONTROLLER means the equipment which controls a VTR, and the DEVICE means the equipment which is controlled.

EX 1. When two VTRs are connected (SWAP editing) , the RECORD VTR is called as a CONTROLLER, and PLAY VTR as a DEVICE.

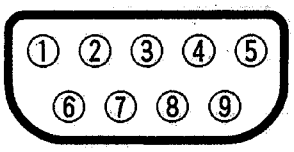
EX 2. When an editor is connected to a VTR, the editor is called as a CONTROLLER, and the VTR as a DEVICE.

1.7.1 SPECIFICATION OF 9-PIN CONNECTOR

Interface connector : 9-pin D-sub female

When two VTRs are connected, a pin arrangement of the RECORD VTR (only BR-S822E) changes the CONTROLLER. When the REMOTE switch of the front panel sets to the 9-PIN, a pin arrangement of the 9-pin connector changes the DEVICE. A pin arrangement of BR-S622E/522E/525E becomes always the DEVICE.

Pin	CONTROLLER	DEVICE
1	Frame Ground	Frame Ground
2	Receive A	Transmit A
3	Transmit B	Receive B
4	Transmit Common	Receive Common
5	Spare	Spare
6	Receive Common	Transmit Common
7	Receive B	Transmit B
8	Transmit A	Receive A
9	Frame Ground	Frame Ground

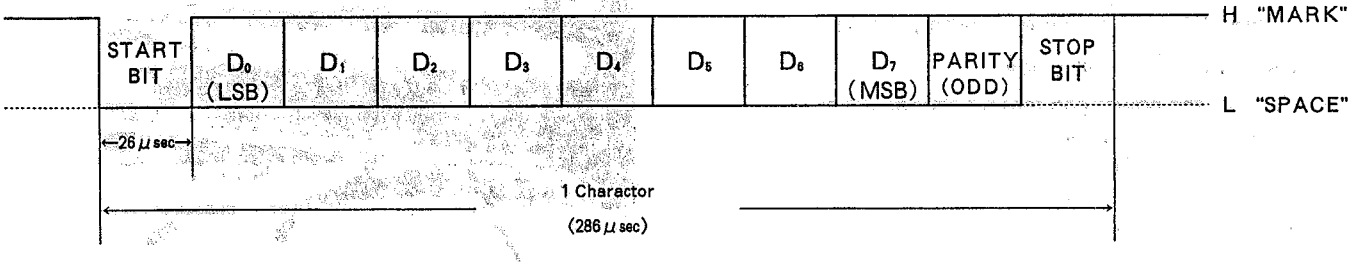


9-pin CONNECTOR

1.7.2 COMMUNICATION FORMAT

Format : EIA RS-422A
Mode : No synchronization
Character length : 1 Start bit + 8 Data bits + 1 Parity bit + 1 Stop bit
Data rate : 38400 bps
Parity : Odd parity $D_0 + D_1 + \cdots + D_7 + P$ = An odd number
Start bit : 1bit "SPACE"
Stop bit : 1bit "MARK"

- The composition of bits.



1.7.3 COMMAND FORMAT

All the data communications is composed of the CMD1/DATA COUNT, CMD2, DATA and CHECKSUM, and commands are transmitted in order from a LSB of the CMD1/DATA COUNT. When the DATA COUNT is zero, no data is transmitted, but when the DATA COUNT is not zero, a number of data which correspond with the value of DATA COUNT are inserted between the CMD2 and CHECKSUM.

1. COMMAND BLOCK FORMAT

The data communication between the CONTROLLER and the DEVICE is performed as follows.

CMD 1	DATA COUNT	CMD 2	DATA n (n=0~15)	CHECKSUM	→
MSD LSD ← 1 Byte →		← 1 Byte →	← n Byte →	← 1 Byte →	

2. CONTENTS OF COMMAND

CMD 1 : Indicates the value according to the function and direction of the command.

CMD1	FUNCTION	DIRECTION Controller Device
0	SYSTEM CONTROL	→
1	SYSTEM CONTROL RETURN	←
2	TRANSPORT CONTROL	→
4	PRESET & SELECT CONTROL	→
6	SENSE REQUEST	→
7	SENSE RETURN	←

DATA COUNT : Indicates the number of DATA bytes (0~15) where inserted between the CMD2 and CHECKSUM.

CMD 2 : Designates the particular command.

DATA : When the data is added to the COMMAND which is defined by the CMD1 and CMD2, DATA-1 to DATA-15 shows the value corresponding to their contents.

CHECKSUM : This is used for checking up on the data communication error, adds from the first byte of the COMMAND block to the last DATA byte, and indicates the least significant 8 bits.

EX. COMMAND "61 4C 84"

```
 LSB            MSB
   1 0 0 0  0 1 1 0  (=6 1)
   0 0 1 1  0 0 1 0  (=4 C)
+) 0 0 1 0  0 0 0 1  (=8 4)
   1 0 0 0  1 1 0 0  (=3 1)
   CHECKSUM "31"
```

1.7.4 COMMAND TABLE

In this table, each kind marks which are shown in a column of the DEVICE show as followings.

1) The COMMAND of "○" mark is applied in the model, if there is printed in the column of RETURN FROM DEVICE, the DEVICE will send back RETURN COMMAND with data, but there is no printed the DEVICE will send back "ACK:10.01".

2) The COMMAND of "△" mark, when the DEVICE receives the command, the DEVICE will send back "ACK:10.01", but does not put into the action.

3) The COMMAND of "×" mark is not applied, the DEVICE will send back "NAK undifined:11.12.01" with a data.

4) The COMMAND of "*" mark, when the model as CONTROLLER can be sent to the DEVICE.

COMMAND FROM CONTROLLER			RETURN FROM DEVICE			DEVICE		
NAME	CMD 1	CMD 2	NAME	CMD 1	CMD 2	BR-S822E	BR-S622E	BR-S522E/ BR-S525E
LOCAL DISABLE	00	0C	ACK	10	01	○	○	○
DEVICE TYPE REQUEST	00	11	DEVICE TYPE RETURN	12	11	○ *	○	○
LOCAL ENABLE	00	1D	ACK	10	01	○	○	○
STOP	20	00	ACK	10	01	○ *	○	○
PLAY	20	01	ACK	10	01	○ *	○	○
REC	20	02	ACK	10	01	○	○	△
STANDBY OFF	20	04	ACK	10	01	○ *	○	○
STANDBY ON	20	05	ACK	10	01	○ *	○	○
EJECT	20	0F	ACK	10	01	○ *	○	○
FAST FWD	20	10	ACK	10	01	○ *	○	○
JOG FWD	2X	11	ACK	10	01	○ *	○	○
VAR FWD	2X	12	ACK	10	01	○ *	○	○
SHUTTLE FWD	2X	13	ACK	10	01	○ *	○	○
REWIND	20	20	ACK	10	01	○ *	○	○
JOG REV	2X	21	ACK	10	01	○ *	○	○
VAR REV	2X	22	ACK	10	01	○ *	○	○
SHUTTLE REV	2X	23	ACK	10	01	○ *	○	○
PREROLL	20	30	ACK	10	01	○ *	○	○
CUE UP WITH DATA	24	31	ACK	10	01	○ *	○	○
SYNC PLAY	20	34	ACK	10	01	○	○	○
PROGRAM PLAY +	21	38	ACK	10	01	○	○	○
PROGRAM PLAY −	21	39	ACK	10	01	○	○	○
PREVIEW	20	40	ACK	10	01	○	△	△
REVIEW	20	41	ACK	10	01	○	△	△
AUTO EDIT	20	42	ACK	10	01	○	△	△
TENSION RELEASE	20	52	ACK	10	01	○	○	○
ANTI-CLOG TIMER DISABLE	20	54	ACK	10	01	○ *	○	○
ANTI-CLOG TIMER ENABLE	20	55	ACK	10	01	○ *	○	○
FULL EE OFF	20	60	ACK	10	01	○ *	○	△
FULL EE ON	20	61	ACK	10	01	○ *	○	△
SELECTED EE ON	20	63	ACK	10	01	○	△	△
EDIT OFF	20	64	ACK	10	01	○ *	△	△
EDIT ON	20	65	ACK	10	01	○	△	△
TIMER-1 PRESET	44	00	ACK	10	01	○	○	○
TIME CODE PRESET	44	04	ACK	10	01	○	○	△
U-BIT PRESET	44	05	ACK	10	01	○	○	△
TIMER-1 RESET	40	08	ACK	10	01	○ *	○	○
IN ENTRY	40	10	ACK	10	01	○ *	○	○
OUT ENTRY	40	11	ACK	10	01	○ *	○	○
IN PRESET	44	14	ACK	10	01	○ *	○	○
OUT PRESET	44	15	ACK	10	01	○ *	○	○
IN SHIFT +	40	18	ACK	10	01	○ *	○	○
IN SHIFT −	40	19	ACK	10	01	○ *	○	○

COMMAND FROM CONTROLLER			RETURN FROM DEVICE			DEVICE		
NAME	CMD 1	CMD 2	NAME	CMD 1	CMD 2	BR-S822E	BR-S622E	BR-S522E/ BR-S525E
OUT SHIFT +	40	1A	ACK	10	01	○ *	○	○
OUT SHIFT −	40	1B	ACK	10	01	○ *	○	○
IN RESET	40	20	ACK	10	01	○ *	○	○
OUT RESET	40	21	ACK	10	01	○ *	○	○
IN RECALL	40	24	ACK	10	01	○	○	○
OUT RECALL	40	25	ACK	10	01	○	○	○
EDIT PRESET	41	30	ACK	10	01	○ *	○	△
PREROLL TIME PRESET	44	31	ACK	10	01	○ *	○	○
TAPE/AUTO SELECT	41	32	ACK	10	01	○	○	△
SERVO REFERENCE SELECT	41	33	ACK	10	01	○	○	△
HEAD SELECT	41	34	ACK	10	01	△	△	△
COLOR FRAME SELECT	41	35	ACK	10	01	○ *	△	△
TIMER MODE SELECT	41	36	ACK	10	01	○	○	○
INPUT CHECK	41	37	ACK	10	01	○	○	△
AUTO MODE OFF	40	40	ACK	10	01	△	△	△
AUTO MODE ON	40	41	ACK	10	01	△	△	△
VIDEO REFERENCE DISABLE OFF	40	48	ACK	10	01	○	○	△
VIDEO REFERENCE DISABLE ON	40	49	ACK	10	01	○	○	△
TC GEN DATA SENSE	61	0A	GEN TC DATA	74	08	○	○	○
			GEN UB DATA	74	09	○	○	○
			GEN TC & UB DATA	78	08	○	○	○
CURRENT TIME SENSE	61	0C	TIMER-1 DATA	74	00	○ *	○	○
			LTC TIME DATA	74	04	○ *	○	○
			LTC INTERPOLATED TIME DATA	74	14	○ *	○	○
			LTC UB DATA	74	05	○ *	○	○
			LTC TIME & UB DATA	78	04	○ *	○	○
			LTC INTERPOLATED TIME & UB DATA	78	14	○ *	○	○
			VITC TIME DATA	74	06	○ *	○	○
			VITC HOLD TIME DATA	74	16	○ *	○	○
			VITC UB DATA	74	07	○ *	○	○
			VITC TIME & UB DATA	78	06	○ *	○	○
			VITC HOLD TIME & UB DATA	78	16	○ *	○	○
			REQUEST TIME MISSING	70	0D	○ *	○	○
IN DATA SENSE	60	10	IN DATA	74	10	○ *	○	○
OUT DATA SENSE	60	11	OUT DATA	74	11	○ *	○	○
STATUS SENSE	61	20	STATUS DATA	7X	20	○ *	○	○
COMMAND SPEED SENSE	60	2E	COMMAND SPEED DATA	7X	2E	○	○	○
VAR MEM SPEED SENSE	60	2F	VAR MEM SPEED DATA	7X	2F	×	×	×
EDIT PRESET SENSE	60	30	EDIT PRESET DATA	71	30	○	○	△
PREROLL TIME SENSE	60	31	PRETOLL TIME DATA	74	31	○ *	○	○
TIMER MODE SENSE	60	36	TIMER MODE DATA	71	36	○ *	○	○

①COMMAND FROM CONTROLLER

- LOCAL DISABLE : 00.0C

When receiving this command, all operational functions of the DEVICE will be disabled.

- DEVICE TYPE REQUEST : 00.11
- DEVICE TYPE : 12.11

When the DEVICE receives the "DEVICE TYPE REQUEST : 00.11" command, the "DEVICE TYPE : 12.11" with 2 bytes data will be sent back to the CONTROLLER as a response.

MODEL	DATA-1	DATA-2
JVC SVHS-1	F1	1F
JVC SVHS-2	F1	0B
OTHER TYPE-1	11	00
OTHER TYPE-2	21	25

Data are changed in accordance with the setting of the memory switch which name is No.317 9-PIN DEVICE TYPE ID.

- LOCAL ENABLE : 00.1D

When receiving this command, the front panel operation of the DEVICE will be enabled in accordance with the settings of the memory switch. When the power of the DEVICE is turned on, it will be set to the LOCAL ENABLE state.

- ACK : 10.01

When receiving acknowledgment command, the DEVICE will send back this command.

- NAK : 11.12

When detecting the following errors, the DEVICE will send back this command as not-acknowledgment. Bit-7 to bit-0 of DATA-1 is set in accordance with the contents of the errors.

DATA-1

Bit-7	6	5	4	3	2	1	0
TIME OUT	FRAMING ERROR	OVERRUN ERROR	PARITY ERROR		CHECKSUM ERROR		UNDEFINED COMMAND

- STOP : 20.00
- PLAY : 20.01
- REC : 20.02
- STANDBY OFF : 20.04
- STANDBY ON : 20.05
- FAST FWD : 20.10
- REWIND : 20.20

These commands are used for setting of the DEVICE to the specified mode. The "STANDBY OFF : 20.04" command is available only in the STOP mode.

- JOG FWD : 2X.11
- VAR FWD : 2X.12
- SHUTTLE FWD : 2X.13
- JOG REV : 2X.21
- VAR REV : 2X.22
- SHUTTLE REV : 2X.23

When receiving one of the above commands, the DEVICE will start running in accordance with speed data. When only DATA-1 is given, the tape speed will be defined as follows.

TAPE SPEED = $10^{(N/32-2)}$ N : SPEED DATA OF DATA-1 (DECIMAL)

When both DATA-1 and DATA-2 are given, the tape speed is more precise value than the tape speed defined by DATA-1, the tape speed will be defined as follows.

TAPE SPEED = $10^{(N/32-2)} + N'/256 \{10^{(N+1/32-2)} - 10^{(N-32-2)}\}$ N : SPEED DATA OF DATA-1
N ' : SPEED DATA OF DATA-2

- PRE ROLL : 20.30

This command is used for cueing up the DEVICE to the point as follows.

IN POINT − PRE ROLL TIME

- CUE UP WITH DATA : 24.31

This command is used for cueing up the DEVICE to the point defined by DATA-1 to DATA-4.

DATA-1		DATA-2		DATA-3		DATA-4	
10 Frame	1 Frame	10 Second	1 Second	10 Minute	1 Minute	10 Hour	1 Hour
MSD	LSD	MSD	LSD	MSD	LSD	MSD	LSD

Refer to ③TIME DATA FORMAT.

- SYNC PLAY : 20.34

This command is used for setting the DEVICE to the PLAY mode while the phase modification is controlled. When the tape position of the DEVICE is near the PRE ROLL POINT, the DEVICE will execute the SYNC PLAY mode as the tape position is the PRE ROLL POINT.

- PROGRAM PLAY + : 21.38
- PROGRAM PLAY − : 21.39

This commands are used for setting the DEVICE into the play back mode accordance with the DATA-1 as a speed data. At this time range of speed data is −25.5% to +25.5% by 0.1% step.

TAPE SPEED= (×1 PLAY SPEED) ×0.1×SPEED DATA (DECIMAL) SPEED DATA : 00H to FFH

- PREVIEW : 20.40
- REVIEW : 20.41
- AUTO EDIT : 20.42

These commands are used for setting the DEVICE to above specified modes.

- TENSION RELEASE : 20.52

When receiving this command, the DEVICE becomes TENSION RELEASE mode in the state of STOP or STILL in SHUTTLE/JOG/VAR mode.

- ANTI-CLOG TIMER DISABLE : 20.54
- ANTI-CLOG TIMER ENABLE : 20.55

These command are used for selecting DISABLE/ENABLE of the ANTI-CLOG TIMER. When the power of the DEVICE is turned on, it will be set to the ANTI-CLOG TIMER ENABLE.

- FULL EE OFF : 20.60
- FULL EE ON : 20.61

These commands are used for setting or clearing all channels to EE mode.

• SELECT EE ON : 20.63

This command is used for setting each EDIT PRESET channel assigned by the DATA-1 of the "EDIT PRESET : 41.30" command to the EE mode. To clear the EE mode, use the "EDIT OFF : 20.64" command.

• EDIT OFF : 20.64

This command is used for clearing the EDIT mode and also clearing the SELECT EE mode.

• EDIT ON : 20.65

This command is used for setting the DEVICE, which is running at the normal PLAY speed during the EDIT PRESET mode, to the EDIT mode.

• TIMER-1 PRESET : 44.00

This command is used for presetting the value, which has been given by the DATA-1 to DATA-4, to the CTL COUNTER of the DEVICE. As for the data format, refer to "CUE UP WITH DATA : 24.31" command.

• TIME CODE PRESET : 44.04

This command is used for presetting the value, which has been given by the DATA-1 to DATA-4, to the TIME CODE of the time code generator. As for the data format, refer to "CUE UP WITH DATA : 24.31" command.

• U-BIT PRESET : 44.05

This command is used for presetting the value, which has been given by the DATA-1 to DATA-4 as follows, to the USER BIT of the time code generator.

DATA-1		DATA-2		DATA-3		DATA-4	
2nd BINARY GROUP	1st BINARY GROUP	4th BINARY GROUP	3rd BINARY GROUP	6th BINARY GROUP	5th BINARY GROUP	8th BINARY GROUP	7th BINARY GROUP
MSD	LSD	MSD	LSD	MSD	LSD	MSD	LSD

• TIMER-1 RESET : 40.08

This command is used for resetting the CTL COUNTER to zero.

• IN ENTRY : 40.10

• OUT ENTRY : 40.11

These commands are used for storing the value which is displayed on the DEVICE into the IN ENTRY or OUT ENTRY memory as an IN POINT or OUT POINT data.

• IN PRESET : 44.14

• OUT PRESET : 44.15

These commands are used for presetting the value, which has been given by the DATA-1 to DATA-4, into the IN ENTRY or OUT ENTRY memory. As for the data format, refer to "CUE UP WITH DATA : 24.31" command.

• IN SHIFT + : 40.18

• IN SHIFT − : 40.19

These commands are used for adding or subtracting the value of an IN POINT data, by one frame.

• OUT SHIFT + : 40.1A

• OUT SHIFT − : 40.1B

These commands are used for adding or subtracting the value of an OUT POINT data, by one frame.

• IN RESET : 40.20
• OUT RESET : 40.21
These commands are used for resetting the value of an IN POINT or an OUT POINT data, which has been stored.

• IN RECALL : 40.24
• OUT RECALL : 40.25
These commands are used for recalling the value, which has been resetting by the "IN RESET : 40.20" or "OUT RESET : 40.21" command, as an IN POINT or an OUT POINT data.

• EDIT PRESET : 41.30
Each bit in the DATA-1 is defined as follows.

DATA-1

Bit-7	6	5	4	3	2	1	0
	INSERT	ASSEMBLE	VIDEO		TIME CODE	AUD-2	AUD-1

INSERT or ASSEMBLE mode is defined by the bit-6 and 5, and each channel is defined by Bit-4 to Bit-0.

• PRE ROLL TIME PRESET : 44.31
These commands are used for presetting the pre roll time, which has given by the DATA-1 to DATA-4, to the DEVICE. As for the data format, refer to "CUE UP WITH DATA : 24.31" command.

• TAPE/AUTO SELECT : 41.33
The TAPE/EE mode is selected by the state of the DATA-1 as follows.

DATA-1
00 : AUTO (TAPE/EE)
01 : TAPE
FF : It depends on the setting of the DEVICE.

• SERVO REFERENCE SELECT : 41.33
The SERVO reference signal is selected by the state of the DATA-1 as follows.

DATA-1
00 : AUTO
01 : EXTERNAL
FF : It depends on the setting of the DEVICE.

• HEAD SELECT : 41.34 (Except for 22 series)
The heads used in the PLAY mode are selected by the state of the DATA-1 as follows.

DATA-1
00 : R/P HEAD
01 : PLAY HEAD
FF : It depends on the setting of the DEVICE.

• COLOR FRAME SELECT : 41.35 (Except for 22 series)

The color frame mode of the servo system is selected by the state of the DATA-1 as follows.

DATA-1

00 : 2 Field

01 : 4 Field

FF : It depends on the setting of the DEVICE.

• TIMER MODE SELECT : 41.36

This command is used for selecting the TIMER system by the state of the DATA-1 as follows.

DATA-1

00 : TIME CODE

01 : CTL COUNTER

FF : It depends on the setting of the DEVICE.

• INPUT CHECK : 41.37

When the DATA-1 is "01", the VIDEO and AUDIO system of the DEVICE will be become to EE mode.

• AUTO MODE OFF : 40.40 (Except for 22 series)

• AUTO MODE ON : 40.41 (Except for 22 series)

This command is used for switching ON/OFF the AUTO mode of the DEVICE.

• VIDEO REFERENCE DISABLE OFF : 40.48

• VIDEO REFERENCE DISABLE ON : 40.49

In the state of PLAY or EE mode of the DEVICE, this command is used for switching ON/OFF the EXTERNAL REFERENCE mode as a SERVO REFERENCE. When the power of the DEVICE is turned on, it will be set to the VIDEO REFERENCE DISABLE OFF.

• TC GEN DATA SENSE : 61.0A

This command is used for requesting the TIME CODE data that the DEVICE is generating, and it will make a response according to the contents of the DATA-1.

DATA-1

Bit-7	6	5	4	3	2	1	0
...	...	...	GEN UB	...	...	...	GEN TC

DATA-1=01 : Request for GEN TC → "GEN TIME DATA : 74.08" Respond

DATA-1=10 : Request for GEN UB → "GEN UB DATA : 74.09" Respond

DATA-1=11 : Request for GEN TC & UB → "GEN TC & UB DATA : 78.08" Respond

▪ CURRENT TIME SENSE : 61.0C

This command is used for requesting the TIME DATA or USER BIT, and the DEVICE will make a response according to the contents of DATA-1.

DATA-1

Bit-7	6	5	4	3	2	1	0
...	...	VITC UB	LTC UB	...	CTL COUNTER	VITC TIME	LTC TIME
M S D				L S D			

Response command \ Request command DATA-1	01	02	03	04	10	20	30	11	22	33
74.00 : CTL COUNTER DATA				○						
74.04 : LTC TIME DATA	○		○							
74.14 : LTC INTERPOLATED TIME DATA	○		○							
74.05 : LTC U-BIT DATA					○		○			
78.04 : LTC TIME & U-BIT DATA								○		○
78.14 : LTC INTERPOLATED TIME & U-BIT DATA								○		○
74.06 : VITC TIME DATA		○	○							
74.16 : VITC INTERPOLATED TIME DATA		○	○							
74.07 : VITC U-BIT DATA						○	○			
78.06 : VITC TIME & U-BIT DATA									○	○
78.16 : VITC INTERPOLATED TIME & U-BIT DATA									○	○

▪ IN DATA SENSE : 60.10

▪ OUT DATA SENSE : 60.11

These commands are used for requesting the IN ENTRY DATA or OUT ENTRY DATA, and the DEVICE will make a response according to the contents of DATA-1. As for the data format, refer to "CUE UP WITH DATA : 24.31" command.

▪ STATUS SENSE : 61.20

This command is used for requesting the status of the DEVICE, and the DEVICE will send back a response command "STATUS DATA : 7X.20" according to the contents of DATA-1 of the CONTROLLER.

MSD (Bit7~4) : Indicates the initial DATA No. of the "7X.20 : STATUS DATA" to be sent back.

LSD (Bit3~0) : Indicates the number of data bytes in "7X.20 : STATUS DATA" to be sent back.

EX. When the DATA-1 is "33".

The DEVICE will send back three bytes from the DATA No.3, i.e. DATA No.3 to DATA No.5 of the "7X.20 : STATUS DATA".

BR-S822E/622E/522E/525E STATUS DATA

BIT / DATA	BIT-7	BIT-6	BIT-5	BIT-4	BIT-3	BIT-2	BIT-1	BIT-0
DATA-0			CASSETTE OUT			HARD ERROR		LOCAL
DATA-1	STANDBY ON	TENSION RELEASE	STOP	EJECT	REW	F.FWD	*2 REC	PLAY
DATA-2	SERVO LOCK	TSO	SHUTTLE	JOG	VAR	REV/FWD	STILL	CUE UP COMPLETE
DATA-3	AUTO MODE	FREEZE ON					OUT	IN
DATA-4	*1*2 SELECT EE ON	*2 FULL EE ON		*2 EDIT	*1*2 PREVIEW	*1*2 AUTO EDIT	*1*2 REVIEW	PREROLL OR CUE UP
DATA-5		*2 INSERT	*1*2 ASSEMBLE	*1*2 VIDEO		*1*2 TIME CODE	*2 AUDIO CH-2	*1*2 AUDIO CH-1
DATA-6		LAMP STILL	LAMP FWD	LAMP REV				
DATA-7				SYNC ACTIVE				IN~OUT STATUS
DATA-8			NEAR END OF TAPE	END OF TAPE				REC INHIBIT
∫								
DATA-F								

Note *1) This bit does not set to "1" in BR-S622E.
*2) This bit does not set to "1" in BR-S522E/525E.

①DATA-0

▪ BIT-2 : HARD ERROR

This bit will be set to "1" when tape path system errors occur in the DEVICE.

▪ BIT-0 : LOCAL

This bit will be set to "1" when the REMOTE switch on the front panel is set to "local".

②DATA-1

▪ BIT-1 : REC

This bit will be set to "1" when the DEVICE goes into the REC mode, also the "DATA-4/BIT-4 : EDIT" is set to "1".

• BIT-0 : PLAY
This bit will be set to "1" when the DEVICE goes into the PLAY, REC or EDIT mode, also the DEVICE is in the CAPSTAN OVERRIDE mode.

③DATA-2
• BIT-6 : TSO MODE
This bit will be set to "1" when the DEVICE is in the CAPSTAN OVERRIDE mode.

• BIT-3 : VAR
This bit will be set to "1" when the DEVICE is in the VAR or CAPSTAN OVERRIDE mode.

• BIT-2 : TAPE DIRECTION
This bit shows the tape direction of the DEVICE in the STILL or STOP mode.
0 = FWD
1 = REV

• BIT-1 : STILL
This bit will be set to "1" when the DEVICE is in the STOP or STILL of SHUTTLE/JOG/VAR mode.

• BIT-0 : CUE UP COMPLETE
This bit will be set to "1" when the DEVICE receives the PRE ROLL or CUE UP WITH DATA command and then cue-up operation is completed, and it will be set to "0" as soon as the tape starts running.

④DATA-4
• BIT-4 : EDIT
This bit will be set to "1" when the DEVICE is in the EDIT mode, and at the same time, the "DATA-1/BIT-1 : REC" is also set to "1".

• BIT-3 : PREVIEW
This bit will be set to "1" when the DEVICE is in the PREVIEW mode.

• BIT-2 : AUTO EDIT
This bit will be set to "1" when the DEVICE is in the AUTO EDIT mode.

• BIT-1 : REVIEW
This bit will be set to "1" when the DEVICE is in the REVIEW mode.

• BIT-0 : PRE ROLL OR CUE UP
This bit will be set to "1" when the DEVICE goes into the PRE ROLL and CUE-UP modes, also the PRE ROLL is performed in the AUTO EDIT or PREVIEW mode.

⑤DATA-6
• BIT-6, 5, 4 : LAMP STILL, LAMP FWD, LAMP REV
When the DEVICE receives the SEARCH command, the corresponding bit of DATA-6 will be set to "1" according to the direction of the SEARCH command.

⑥DATA-7
• BIT-0 : IN-OUT STATUS
This bit will be set to "1" when the DEVICE is in the PREVIEW or AUTO EDIT mode and the tape is running between the IN POINT and OUT POINT.

▪ COMMAND SPEED SENSE : 60.2E

This command is used for requesting the tape speed which is been running of the DEVICE, and the DEVICE is send back the "COMMAND SPEED DATA : 71.2E" command with a data.

▪ TIMER MODE SENSE : 60.36

This command is used for requesting the TIMER mode of the DEVICE. When the DEVICE receives this command, it will send back the "TIMER MODE STATUS : 71.36" with DATA-1 as shown below.

"TIMER MODE STATUS : 71.36" DATA-1 : 00 ··· TIME CODE
01 ··· CTL COUNTER

②RETURN FROM DEVICE

▪ GEN TC DATA : 74.08

This command is sent back to the CONTROLLER with the TIME data of the TC which the DEVICE is generating. For the data format, refer to the "CUE UP WITH DATA : 24.31".

▪ GEN UB DATA : 74.09

This command is sent back to the CONTROLLER with the UB data of the TC which the DEVICE is generating. For the data format, refer to the "U-BIT PRESET : 44.05".

▪ GEN TC & UB DATA : 78.08

This command is sent back to the CONTROLLER with the TIME data and UB data of the TC which the DEVICE is generating that are added to DATA-1 to DATA-4 as a TIME data and DATA-5 to DATA-8 as a UB data. For the data format, refer to the "CUE UP WITH DATA : 24.31" and "U-BIT PRESET : 44.05".

▪ IN DATA : 74.10

This command is sent back to the CONTROLLER with the IN POINT DATA. For the data format, refer to the "CUE UP WITH DATA : 24.31".

▪ OUT DATA : 74.11

This command is sent back to the CONTROLLER with the OUT POINT DATA. For the data format, refer to the "CUE UP WITH DATA : 24.31".

▪ LTC INTERPOLATED TIME DATA : 74.14

When the LTC TIME DATA of the DEVICE is requested, if the data of LTC played back by the DEVICE is corrected by the CTL either or it is read incorrectly, this command will be sent back to the CONTROLLER with the LTC TIME DATA. For the data format, refer to the "CUE UP WITH DATA : 24.31".

▪ TIMER MODE DATA : 71.36

Refer to the "TIMER MODE SENSE : 60.36" command.

▪ TIMER-1 DATA : 74.00

This command is sent back to the CONTROLLER with the CTL COUNTER DATA. At this time, the BIT-6 of DATA-1 is set to "1" ("0") when the CTL COUNTER of the DEVICE is set to DF (NDF) mode. For the data format, refer to the "CUE UP WITH DATA : 24.31".

▪ LTC TIME DATA : 74.04

When the LTC TIME DATA of the DEVICE is requested, if the data of LTC is read correctly and this command is sent back to the CONTROLLER with four data. For the data format, refer to the "CUE UP WITH DATA : 24.31".

▪ LTC TIME & UB DATA : 78.04

This command is sent back to the CONTROLLER with data which are added to DATA-1 to DATA-4 as a LTC TIME DATA and DATA-5 to DATA-8 as a LTC UB DATA. For the data format, refer to the "CUE UP WITH DATA : 24.31" and "U-BIT PRESET : 44.05".

▪ LTC UB DATA : 74.05

This command is sent back to the CONTROLLER with the LTC UB DATA. For the data format, refer to the "U-BIT PRESET : 44.05".

▪ LTC INTERPOLATED TIME & UB DATA : 78.14

When the LTC TIME DATA and UB DATA of the DEVICE is requested, if the data of LTC played back by the DEVICE is corrected by the CTL either or it is read incorrectly, this command will be sent back to the CONTROLLER with data which are added to DATA-1 to DATA-4 as a LTC TIME DATA and DATA-5 to DATA-8 as a LTC UB DATA. For the data format, refer to the "CUE UP WITH DATA : 24.31" and "U-BIT PRESET : 4 4.05".

▪ VITC TIME DATA : 74.06

This command is sent back to the CONTROLLER with the VITC TIME DATA. For the data format, refer to the "CUE UP WITH DATA : 24.31".

▪ VITC TIME & UB DATA : 78.06

This command is sent back to the CONTROLLER with data which are added to DATA-1 to DATA-4 as a VITC TIME DATA and DATA-5 to DATA-8 as a VITC UB DATA. For the data format, refer to the "CUE UP WITH DATA : 24.31" and "U-BIT PRESET : 44.05".

▪ VITC HOLD TIME DATA : 74.16

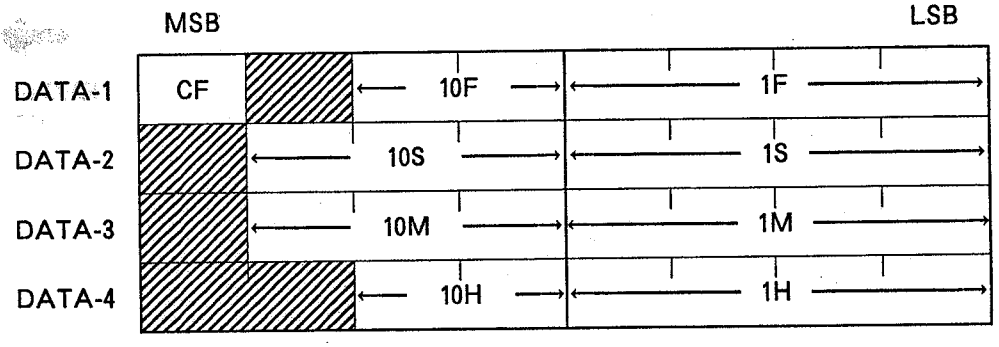
When the VITC TIME DATA of the DEVICE is requested if it will be read incorrectly, this command will be sent back to the CONTROLLER with the VITC TIME DATA. For the data format, refer to the "CUE UP WITH DATA : 24.31".

▪ VITC HOLD TIME & UB DATA : 78:16

When the VITC TIME DATA and VITC UB DATA of the DEVICE are requested if they will be read incorrectly, this command will be sent back to the CONTROLLER with data which are added to DATA-1 to DATA-4 as a VITC TIME DATA and DATA-5 to DATA-8 as a VITC UB DATA. For the data format, refer to the "CUE UP WITH DATA : 24.31" and "U-BIT PRESET : 44.05".

③FORMAT OF TIME DATA

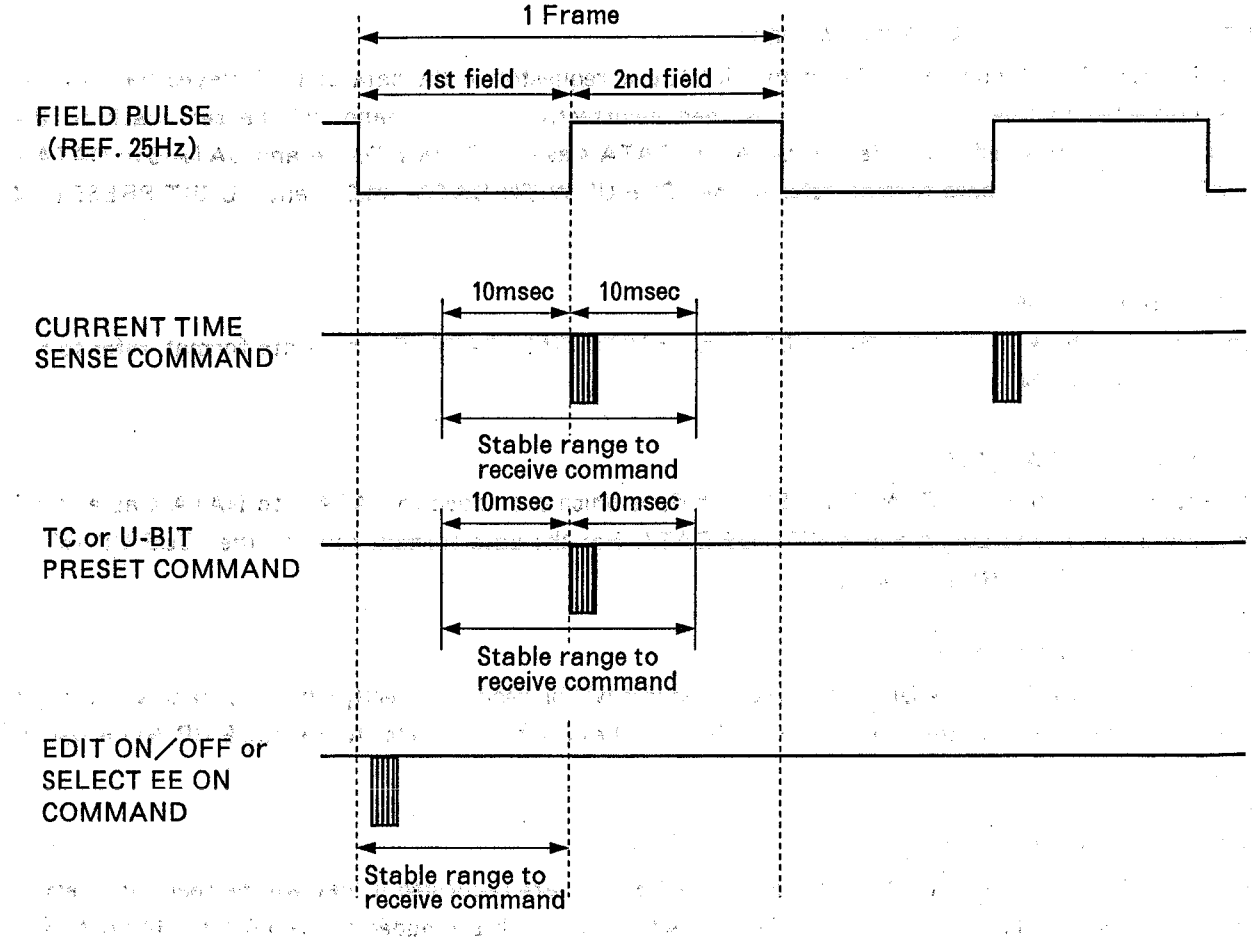
The format of the TIME DATA is used by the "CUE UP DATA : 24.31" command etc. show as follows.

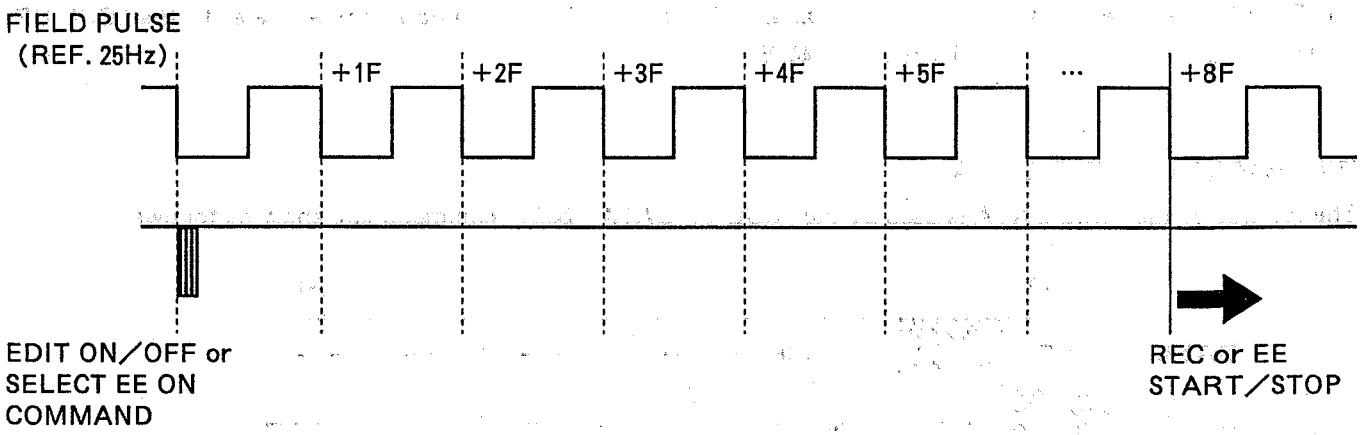


1. DATA-1/BIT-7 : CF FLAG ("1"CF ON, "0"CF OFF)
When the DEVICE receives the "CURRENT TIME SENSE : 61.0C" command, if the DEVICE has been set to the CF mode and it will be set to "1".

2. The BIT of ▨ mark has no meaning as a TIME DATA.

1.7.5 DETAIL TIMING CHART





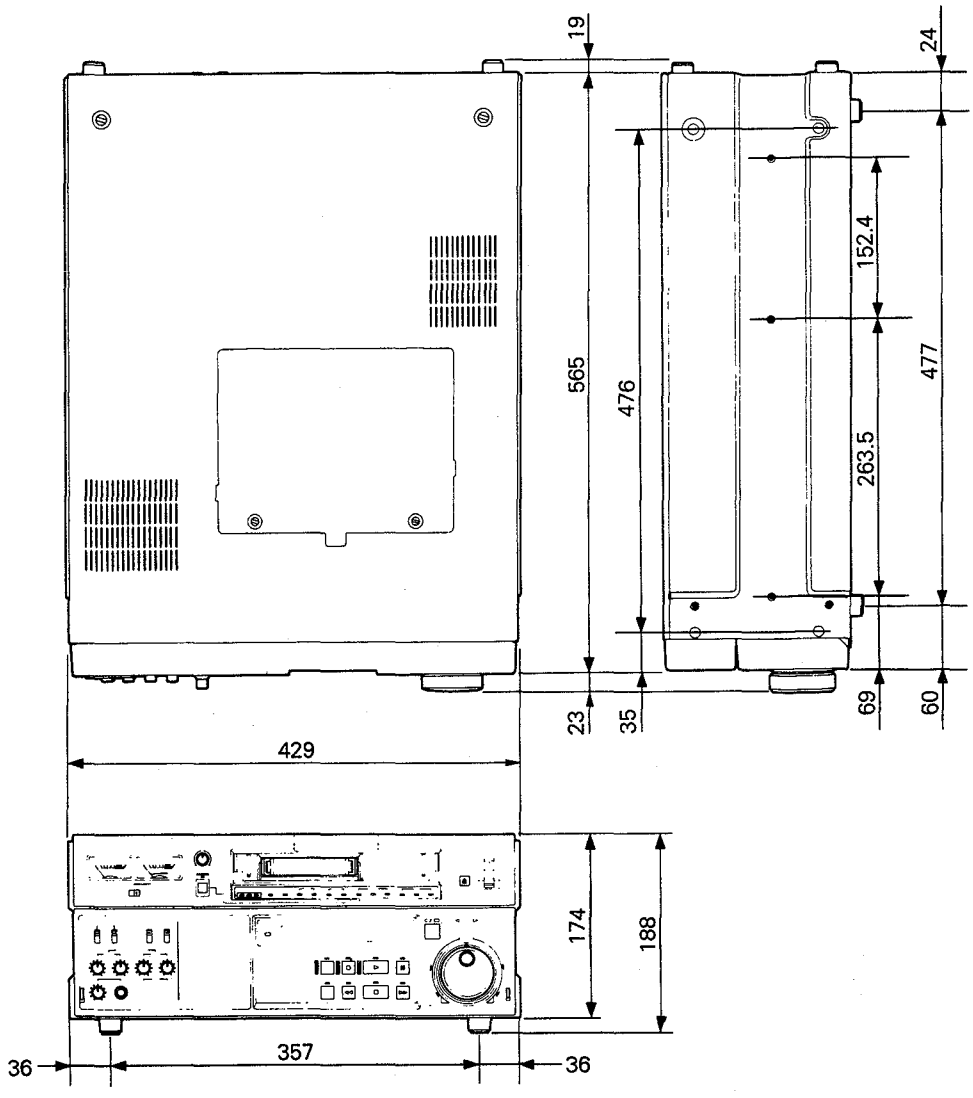
1.8 ADJUSTMENT MODE

To set to the Adjustment Mode, depress the COUNTER RESET button, the FF button and the REW button while pressing the POWER switch to ON. The counter displays "····· 88 ·····" and the set enters the "Adjustment Mode 0".
To select an adjustment mode, turn the JOG dial to change the mode. Turning off the power cancels the adjustment mode.
Kinds of the adjustment modes with details are shown in the following table.

Adjustment Mode	Counter Display	VTR Mode	Description	Adjustment Item
1	−01−	STBY-ON	Normal Audio CH-1 is set to REC mode.	Not used in the adjustment procedures.
2	−02−	STBY-ON	Normal Audio CH-2 is set to REC mode.	
3	−03−	STBY-ON	Both channels of Normal Audio are set to REC mode.	
4	−04−	Normal PB	Tracking VR function is cancelled.	Used for section 2.6.5. (only 522)
5	−05−	No Cassette	Drum and Capstan motors are rotate.	Used for section 2.2.2 and 2.3.3.
		PB	TBC circuit does not work.	Not used in the adjustment.
6	−06−	STBY-ON	The rotation of the Drum motor is syncronized with the input video signal.	Not used in the adjustment.
7	−07−	Normal PB	CTL signal is recorded. ***Note:Be careful, this mode records the CTL signal always.***	Used for section 2.5.4 and 2.5.6.
8 ≀ 24	−08− ≀ −24−		Not used.	

1.9 DIMENSIONS

Illustrations is BR-S522E.



SECTION 2
MECHANISM ADJUSTMENT

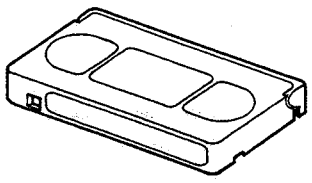
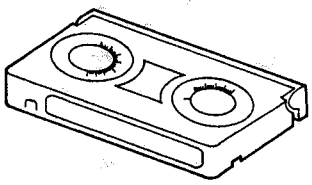
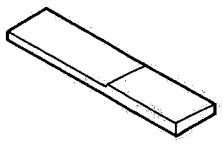
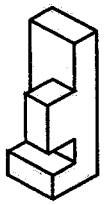
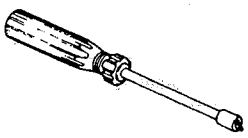
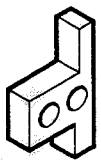
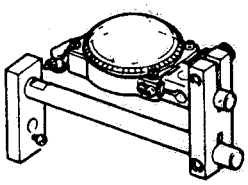
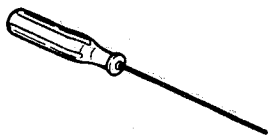
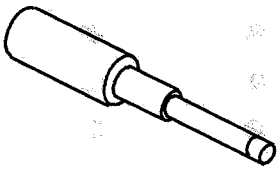
2.1 GENERAL DESCRIPTION

2.1.1 Precautions

(1) Before use of a soldering iron, make sure to disconnect the power cord of the set from the outlet.
(2) Do not pull connector cables strongly for disconnecting connectors.
(3) Do not disturb VRs and other adjusting parts with a trouble of unknown origin.
(4) When inserting a cassette tape into set, place the set correctly horizontally. Under the circumstances that the set is laid on its side or its rear, or upside down, insertion of a cassette may damage the cassette housing.

2.1.2 Jigs and special tools for mechanism adjustment

The following jigs and special tools are necessary for adjusting the mechanism.

Alignment tapes MHPE,MBPE-2,MBAE, MBAE-3,MBPE-X	Cassette torque meter PUJ42881/PUJ42881B	Parallel check plate PGJ04035(0.05)/PUJ50204(0.1)	Height gauge PGJ04032
			
Taper nut driver PUJ50637	Tension pole mechanism positioning jig PGJ04031	Microchecker PUJ49712-2	Hex.driver PGJ04034(2 mm)
			
Line head wrench PGJ04033	Guide arm height adjustment driver PGJ04036		
			

***General tools required besides above special tools**

- Nut driver (7 mm)
- Hex. keys (1.27 mm, 2 mm)
- Ordinary (+) screwdrivers [PGJ04037(3 mm), PGJ04038 (2.6 mm)
- Spacer (0.1 mm)

Table 2-1-1

2.2 MAIN PARTS REPLACEMENT TABLE

Periodic inspection and maintenance are needed in order to ensure performance and reliability. The following table has been compiled simply to give a general idea regarding maintenance and inspection.
In practice, the periods indicated will vary widely according to environmental and usage conditions. Also be aware that rubber parts may deform and age even when the equipment is not used. The upper drum life is particularly affected by environmental and usage conditions.

	No.	Part Name	Part Number	Standard service period ※				Ref. Sect.	Remark
				1000	2000	3000	4000		
Tape transport system	①	Supply guide shaft	—	★	★	★	★	—	
	②	Tension arm ass'y	PRD44024B-02					2.3.9	
	③	Supply guide roller	PRD43721A					2.7.2	
	⑤	Supply pole base ass'y	PRD30821D-06					2.3.15	
	⑥	Supply inertia roller	PGZ01667(522) PGZ01667-04(525)					2.3.4	Not included in Drum ass'y
	⑦	Take-up inertia roller	PGZ01667-02(522) PGZ01667-03(525)	★	★	★	●	2.3.4	Not included in Drum ass'y
	⑧	Take-up pole base ass'y	PRD30864B					2.3.15	
	⑨	A/C head	PGZ01840					2.3.7	Excluding A/C Head board
	⑩	Take-up guide roller Upper flange Lower flange	PRD44110 PRD43732 PRD43670-01-01					2.7.3	
	⑪	Guide arm roller ass'y	PRD43404D-03					2.7.4	
	⑫	Capstan shaft	—	★	★	★	★	—	
	⑬	Pinch roller arm ass'y	PRD43387A-01(522) PRD43387C(525)	○	●	○	●	2.3.10	
	⑭	Drum ass'y	PDV2273E(522) PDV2307A (525 #~418) PDV2307B (525 #419~)	★	★	○	●	2.3.6	For check, see 2.3.6. No interchangeability between PDV2307A and PDV2307B
	⑮	Upper drum ass'y	PRD20380C-1(522) PRD20448B(525)	●	●	●	(●)	2.3.4 / 2.3.5	Included in Drum ass'y
Drive system	⑯	Capstan motor	PGZ01535-01-01				●	2.3.11	
	⑰	Reel motor	PGZ01541A-04				●	2.3.12	Assembled part
	⑱	Loading motor	PRD44016A				●	2.3.13	
	⑲	Loading belt	PRD30022-12 PRD30022-16	●	●	●	●	2.3.13	Motor side. Worm gear side
	⑳	Cassette motor	PQ45489A				●	2.3.2	
	㉑	Supply main brake	PRD43388A-02		●		●	2.3.14	
	㉒	Take-up main brake	PRD43395A-02		●		●	2.3.14	
	㉓	Take-up sub brake	PRD43479A-01		●		●	2.3.14	
Others	㉔	Brush ass'y (A)/(B)	PRD43986A/B(522) PRD43938A(525)		●		(●)	2.3.3	Included in Drum ass'y
	㉕	Slip ring ass'y	PGZ01630(522) PGZ01760-06(525)	○	●	○	(●)	2.3.4	Included in Drum ass'y
	㉖	Head cleaner	PRD40510-01-02	●	●	●	●	—	Not included in Drum ass'y

※Know the standard service time by the drum's hour meter. For the capstan motor and the reel motor, perform service according to drum's hour meter, too.

★ =Cleaning
○ =Check and Replace if necessary, or Check and Clean.
● =Replacement
(●)=Included in Drum assembly.

2.2.1 Location of main parts

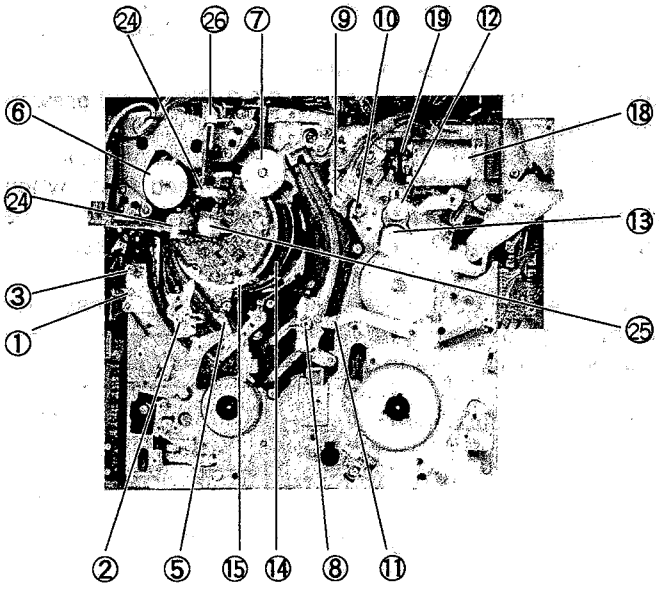


Fig. 2-2-1

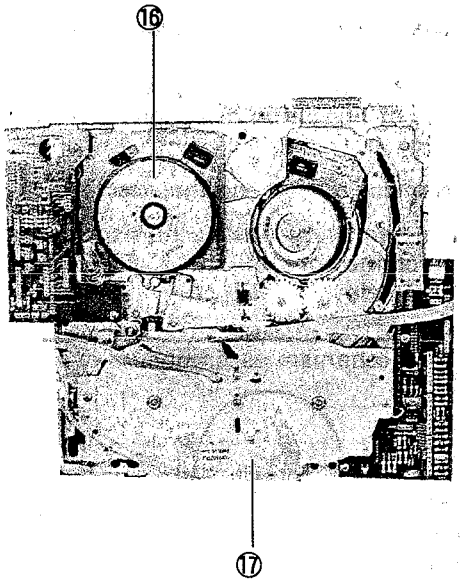


Fig. 2-2-2

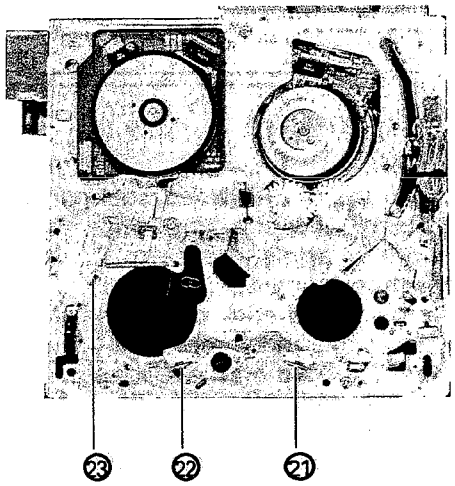


Fig. 2-2-3 (Reel motor is removed.)

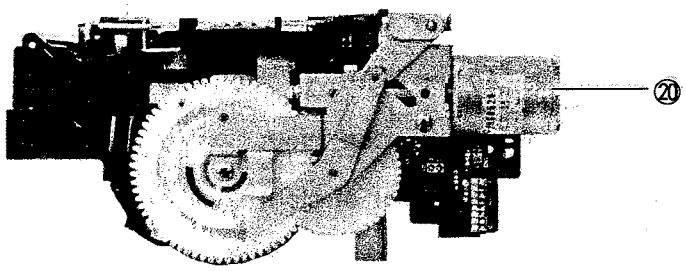


Fig. 2-2-4

2.2.2 Cleaning

Although periodical cleaning of the tape transport system is required, it is almost impossible to put it into practice. Therefore, it is strongly recommended to clean the tape transport system when a set is brought in for repair, etc. For cleaning, use fine woven cotton cloth moistened with ethyl alcohol.

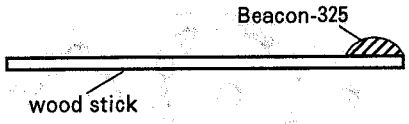
(1) Dirty video head causes rough playback picture and non picture reproduction in the extreme case. For cleaning video heads, lightly press the cloth to the upper drum by finger while turning the upper drum.
Note:Since the video head is weak against vertical force (applied in up-down direction), movement of cloth may possibly damage it.

(2) Dirty tape guide not only increases video heads in getting dirty much more but also damages tapes.

(3) Dirty and dusty brush causes snow noise in playback picture.
For cleaning the slip ring (or brush) show as follows.

— Cleaning of slip ring —

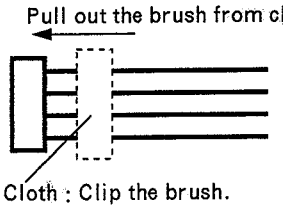
① Apply ethyl alcohol to the specified cleaning cloth.
② Lightly press the cleaning cloth onto the slip ring with care not to contact it to the brush.
③ Turn the drum by hand while wiping grease and dirt off the slip ring.
④ Sharpen an end of a wood stick or the like and apply grease(Esso Beacon-325) to the tip.



⑤ Put the tip of the wood stick with grease into a groove of the slip ring while turning the drum around to apply grease to it. Do this work for respective grooves.
⑥ Take the wood stick out of the slip ring, and turn the drum around (more than 3 turns) until grease is evenly spread on the slip ring.
⑦ Remove grease from outside of the grooves with a cotton swab or the like.
⑧ Make sure to run the set in idling for about 1 hour. For running the set, enter the set to the "Adjustment mode 05" referring to the section 1.8 as shown on page 1-27.
Note: When using a cotton swab, etc. to wipe away grease from parts other than the grooves, do not touch it to any groove.

— Cleaning of brush —

① Remove the brush assemblies (A) and (B). (Refer to section 2.3.3, page 2-5.)
② Clip the brush, use fine wooven cotton cloth moistend with ethyl alcohol.
③ Pull out the brush from cloth movement of cloth may possible damage brush.
④ After cleaning the brush, reassemble the brush assemblies(A) and (B) referring to the section2.3.3.



2.2.3 Oiling and greasing

Periodical oiling and greasing are not required, but new parts need them when they replace old ones. If oil or grease on the other party is old, wipe it off and apply new oil or grease.

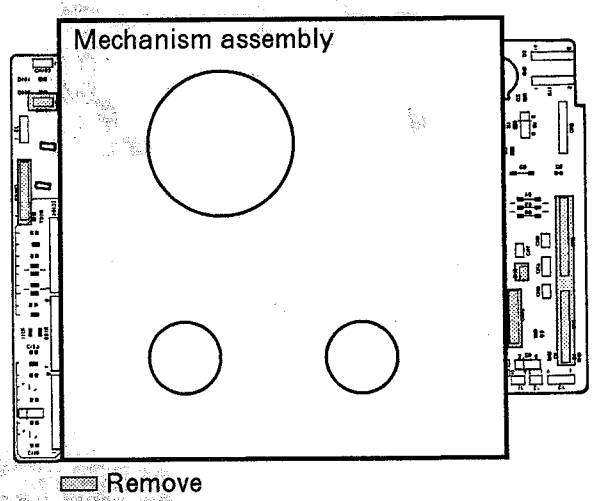
(1) Oil and grease used in this set are as follows.

Item	Name	JVC Part No.
Oil	Cosmo Hydro HV56	COSMO-HV56
<General spindle oil (low viscosity) is substitutable>		
Grease	Moriton Grease (Black)	MOS2-C
	Fuloil (Light Blue)	KANTO-G31KAV
	BEACON-325 (ESSO)	PGJ04040

(2) Grease the control cam every 2000 hours of operation.
(3) For other parts, apply grease to them every 4000 hours of operation or on parts replacement.

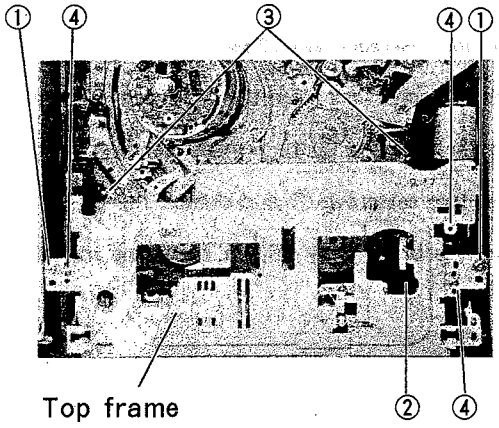
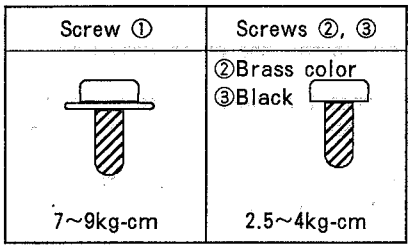
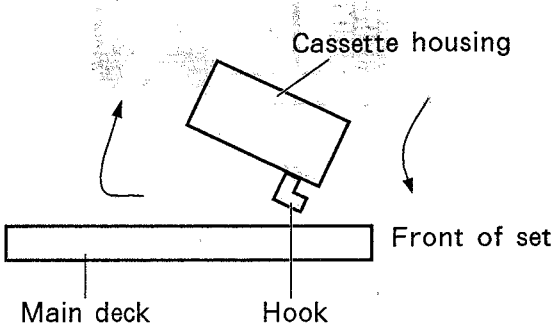
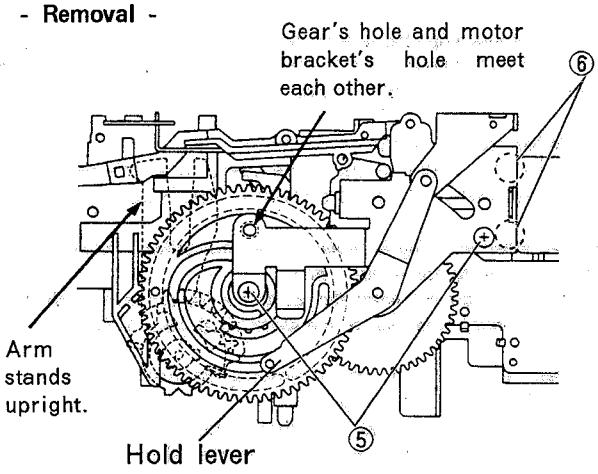
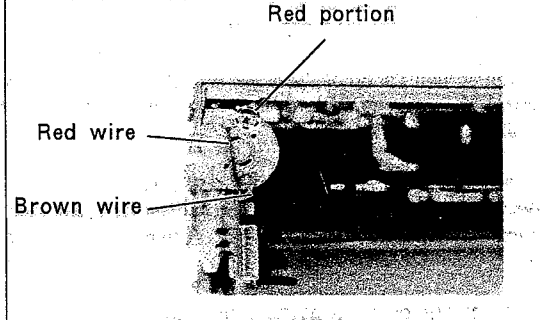
2.2.4 Removing of mechanism connectors

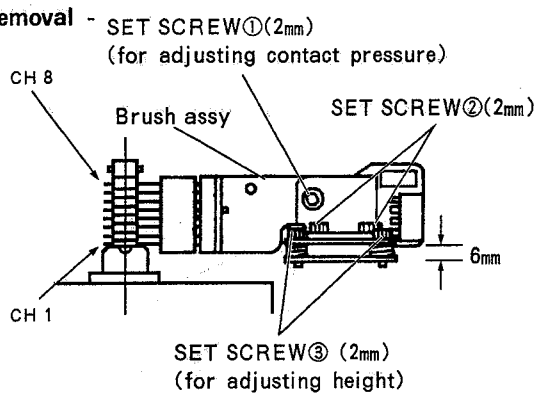
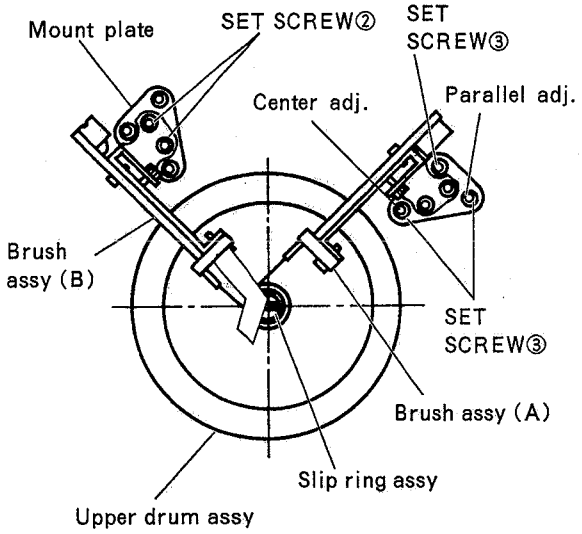
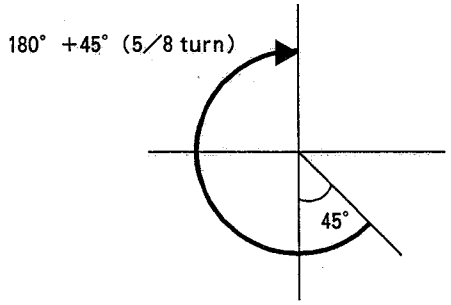
When removing the mechanism assembly, disconnect connectors of DECK-TERMINAL board as shown below.



2.3 REPLACEMENT OF MAIN PARTS

Note: For parts replacement, remove external covers, P. C. boards, cassette housing, etc. as required.

No.	Item	Adjustment and Check
1	**Cassette housing assembly**  Fig. 2-3-1 (Housing cover is removed)  Fig. 2-3-2	(1) Remove the cassette panel ass'y (see 1.1.2, page 1-1). (2) Remove the cassette housing cover. (3) Remove two screws ①, one screw ② and two screws ③. (4) Push the cassette housing toward the drum once and raise it with the hook disengaged to disconnect the housing connector while removing the cassette housing.  Fig. 2-3-3
2	**Cassette housing motor** **- Removal -**  Fig. 2-3-4 (Rerspective view of assembly position)	(1) Remove the cassette housing assy (see 2.3.1). (2) Set the cassette housing to the assembly position (in which the holes of the motor bracket and the gear coincide with each other) as shown in Fig. 2-3-4. (3) Remove the hold lever after removing patching. (4) Remove three screws ④ (see Fig. 2-3-1) and remove the top frame. (5) Remove two screws ⑤ and remove the cassette motor together with the motor bracket. (6) Remove two screws ⑥ and unsolder wires. Then, the cassette motor can be removed.
	- Reinstallation -  Fig. 2-3-5 Wiring motor	(1) Reinstall the cassette motor and peripheral parts in the reverse order of removal referring to Fig. 2-3-5. (2) When reassembling the motor bracket to the cassette housing, pay attention to the phase of the gear.

No.	Item	Adjustment and Check
3	**In this model, power supply and PRE/REC amp. control signal are supplied to the PRE/REC board from the brush. If either of installation and the contact pressure of the brush is incorrect, picture may not be played back.**	
	Brush assembly **- Removal -**  Fig. 2-3-6	▪ **Required tool: Hexagon key (2 mm)** (1) Disconnect connectors from the brush assy (A) and (B). (2) Loosen the setscrew ① to remove bending in the brush. (3) Remove two setscrews ② and detach the brush assy (A). (4) Remove the brush assy (B) in the same manner.
	- Reinstallation -  Fig. 2-3-7  Fig. 2-3-8	(1) First of all, install the brush assy (A). (2) Make sure that the mount plate is positioned 6 mm apart from the brush base as shown in Fig. 2-3-6. (3) Tighten the setscrew ② where the tip of the brush slightly contacts the slip ring. (4) **Be careful that setting position of a brush differs depending on acase that a new slip ring is installed or not.** Incorrect setting of brush increases noise level of waveforms observed at TP11 and TP12 (both on VT board). **— When new slip ring is installed —** Set the CH1 brush (the lowest one) to contact the center of the groove (gold-colored part) of the slip ring. **— When old slip ring is reinstalled —** Set the CH1 brush in the same position as it was previously installed (where there is a trace of the brush). ***Note: When slip ring is replaced (or reinstalled), make sure to run the set in idling for about 1 hour.*** ***For running the set, enter the set to the "adjustment mode 05" (for about 1 hour) referring to the section 1.8, page 1-27.*** (5) If not, adjust it in the following manner. ① Loosen the setscrew ②. ② Tighten the setscrew ② where the tip of the brush is approximately 1mm apart from the slip ring. ③ Adjust the setscrew ③ so that the brush is positioned in the center (or the same position) of the groove and parallel with the slip ring. ④ Loosen the setscrew ② once, and tighten it where the tip of the brush slightly contacts the slip ring. (6) ***In the condition that the tip of the brush is slightly contacting the slip ring, tighten the setscrew ① at an angle of 225° (180° +45°, or 5/8turn).*** (7) In the same manner, install the brush assy (B). ***Note: When installing the brush assy (B), adjust its brush height to be the same as the height of the CH1 brush (lowest one) of the brush assy (A).*** (8) After putting the brush together, clean the slip ring. (See section 2.2.2, page 2-4.)

No.	Item	Adjustment and Check
4	**Upper drum assembly** **- Removal -**	▪ **Required tool:Hexagon keys (1.27 mm, 2 mm)**

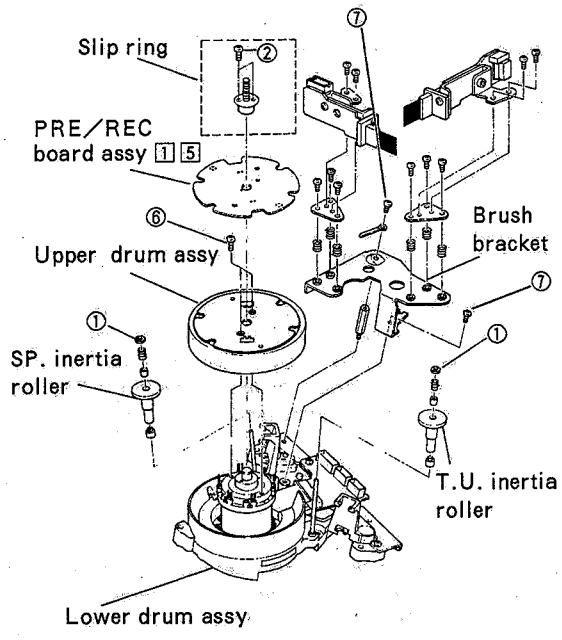


Fig. 2-3-9

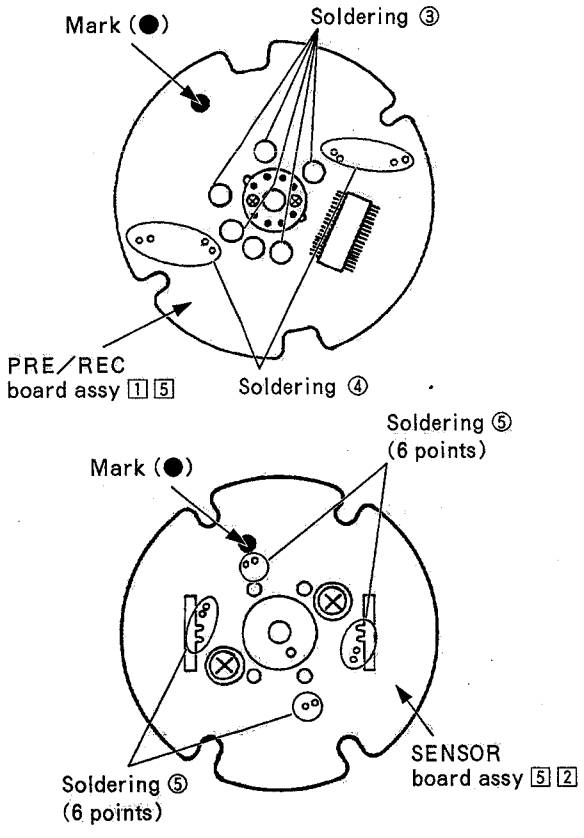


Fig. 2-3-10

(1) Referring to the section 2.3.3 remove the both brush assemblies (A) and (B).

(2) Remove the slit washers ①, then remove the inertia rollers paying attention to springs, etc. not to loose any of small parts.
Note: When installing the slit washer again, replace it with new one (Part No. PQM30017-25).

(3) Remove the head cleaner ass'y.

(4) Remove two screws ⑦ and the brush bracket.

(5) Remove solderings from the part ③ on the PRE/REC board to disconnect five wires (red, yellow, orange, white and black) for disconnecting it from the slip ring.

(6) Disconnect two shield wires (blue) connecting the slip ring with the drum from the slip ring side, and remove the slip ring by removing a screw ②.

(7) Unsolder at 8 points in the part ④ on the PRE/REC board, and remove the PRE/REC board.

Caution: If it is attempted to remove the PRE/REC board as solderings are not completely removed from the parts ③ and ④ (13 points in total) or those parts are too much heated at unsoldering, some pins may come off the lower drum.

(8) Unsolder at 12 points of the part ⑤.

(9) Remove two screws ⑥ and remove the upper drum ass'y together with the SENSOR board as it is assembled.

No.	Item	Adjustment and Check

- Reinstallation -

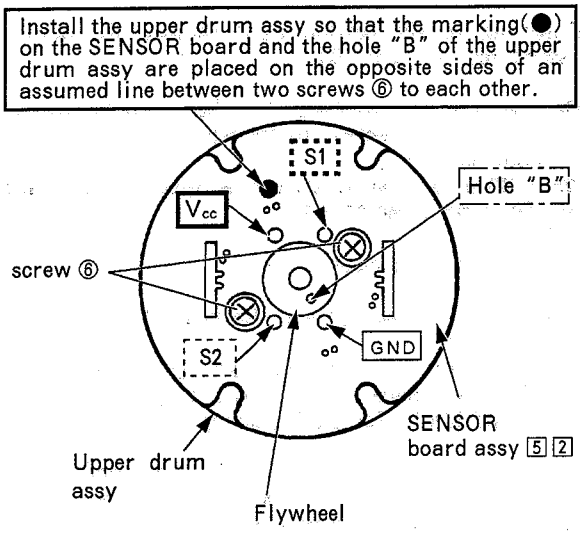


Fig. 2-3-11A Installment of SENSOR board assy

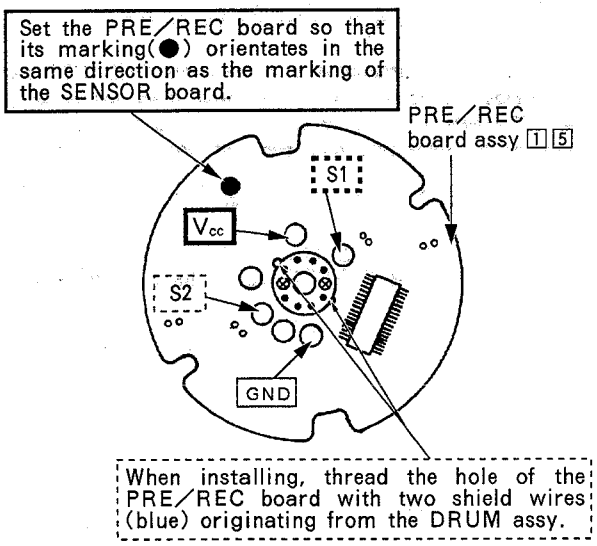


Fig. 2-3-11B Installment of PRE/REC board assy

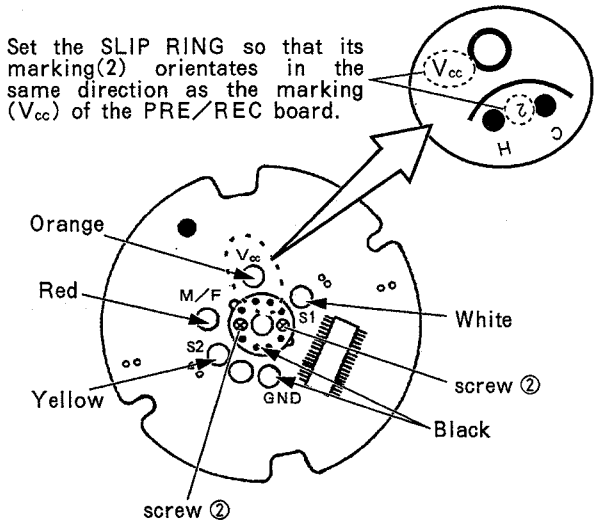


Fig. 2-3-11C Installment of slip ring assy

(1) Clean the contact surfaces of both the upper drum assy and the lower drum assy with alcohol.

(2) Install the upper drum assy so that the marking (●) on the SENSOR board and the hole "B" (φ1.6) of the upper drum assy are placed on the opposite sides of an assumed line between two screws ⑥ to each other. After setting it correctly, tighten the screws ⑥ with a torque of 4.5 to 5.0kg-cm. (See Fig. 2-3-11A)

(3) Check centering of the upper drum (eccentricity or wobbling must not be observed in rotation).

(4) After making sure of correct centering of the upper drum, solder the SENSOR board. (See Fig. 2-3-10, page 2-7.)

(5) Set the PRE/REC board so that its marking (●) orientates in the same direction as the marking of the SENSOR board, and fix it by soldering. (See Fig. 2-3-11B)
Note: When installing, thread the hole of the PRE/REC board with two shield wires (blue) originating from the DRUM assy.

(6) Install the slip ring and tighten the screw ②. Then solder five wires (red, yellow, orange, white and black) at respectively specified positions on the PRE/REC board for connection between them. (See Fig. 2-3-11C.)
Note: When installing the slip ring, set it so that the point where the red wire is soldered is positioned in the same direction as the marking of the PRE/REC board. (See Fig. 2-3-11C)

(7) Solder the two shield wires (blue) to the board installed on the slip ring. (Solder the white line to "H" of silk print while do the black line to "C".)

(8) Install the brush assy (see 2.3.3, page 2-6).

(9) Confirm correct installation with necessary adjustment, proceed to do the following checks and adjustments.

— Check and Adjustment —

START

2.8.1 Sensor output voltage adj. (page 2-32).

2.7 Check of Tape Transport System (page 2-30).

2.6.5 X-value adjustment (page 2-29).

3.2.2 BR-S525E switching point adj. (page 3-5).

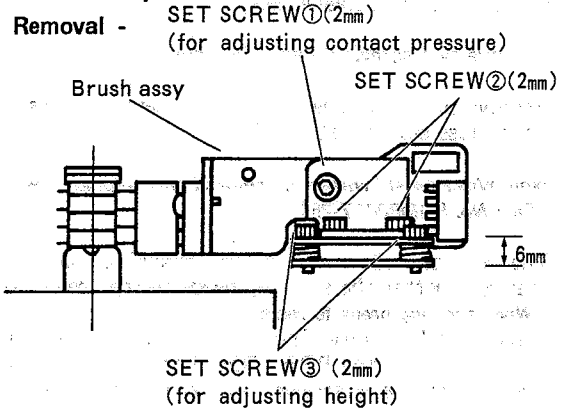
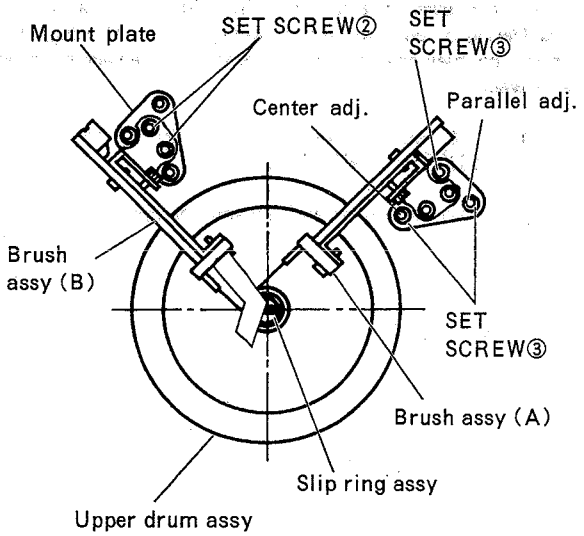
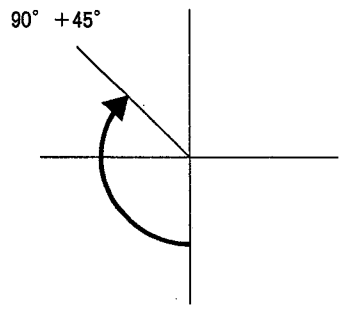
2.8.2-2.8.5 VT circuit adjustment (page 2-32).

3.3.4 HiFi audio FM output level adj. (page 3-6).

3.4.5 RF equalizer adjustment (page 3-8).

3.4.20 Auto equalizer adjustment (page 3-13).

FINISH

No.	Item	Adjustment and Check
3	**In this model, power supply and PRE/REC amp. control signal are supplied to the PRE/REC board from the brush. If either of installation and the contact pressure of the brush is incorrect, picture may not be played back.**	
	Brush assembly **- Removal -**  Fig. 2-3-6	▪ **Required tool: Hexagon key (2 mm)** (1) Disconnect connectors from the brush assy (A) and (B). (2) Loosen the setscrew ① to remove bending in the brush. (3) Remove two setscrews ② and detach the brush assy (A). (4) Remove the brush assy (B) in the same manner.
	- Reinstallation -  Fig. 2-3-7  Fig. 2-3-8	(1) First of all, reinstall the brush assembly (A). (2) Confirm that mount plate is positioned just 6 mm apart from the brush base as shown in Fig. 2-3-6. (3) Adjust the position of the brush so that its tip slightly contacts the slip ring, and tighten the setscrews ② to fix the brush. (4) **Be careful that setting position of a brush differs depending on a case that a new slip ring is installed or not.** **— When new slip ring is installed —** Set the CH1 brush (the lowest one) to contact the center of the groove of the slip ring. **— When old slip ring is reinstalled —** Set the CH1 brush in the same position as it was previously installed (where there is a trace of the brush). ***Note: When slip ring is replaced (or reinstalled), make sure to run the set in idling for about 1 hour.*** ***For running the set, enter the set to the "adjustment mode 05" (for about 1 hour) referring to the section 1.8, page 1-27.*** (5) If not, adjust as follows. ① Loosen the setscrews ②. ② Set the brush as its tip is positioned approximately 1 mm apart from the slip ring, and tighten the setscrew②. ③ Adjust the setscrews ③ so that the brush is positioned in the center (or the same position) of the slip ring's groove and in parallel with the slip ring. ④ Loosen the setscrew ② and tighten the setscrews ② as the tip of the brush slightly contacts the slip ring. (6) **As the brush's tip is in slight contact with the slip ring, turn the setscrew ① clockwise at an angle of 90° +45° .** (7) In the same manner as above, reinstall the brush assembly (B). ***Note: When installing the brush assy (B), adjust its brush height to be the same as the height of the CH1 brush (lowest one) of the brush assy (A).*** (8) After putting the brush together, clean the slip ring. (See section 2.2.2, page 2-4.)

No.	Item	Adjustment and Check
4	**Upper drum assembly** **- Removal -**	▪ **Required tool:Hexagon keys (1.27 mm, 2 mm)**

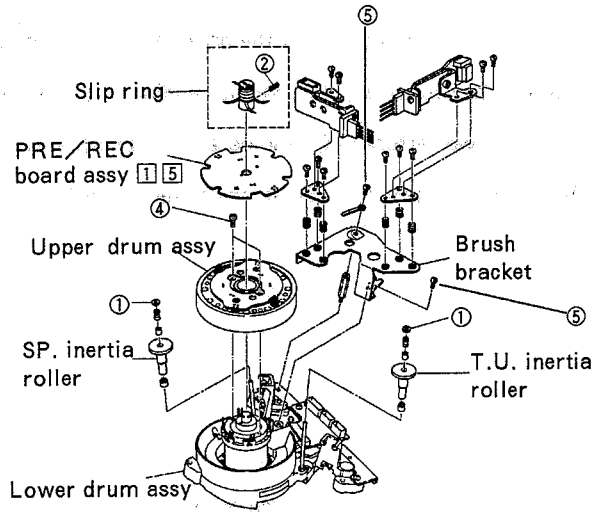


Fig. 2-3-9

(1) Remove the brush assemblies (A) and (B) referring to 2.3.3 (as shown on page 2-6).

(2) Remove the head cleaner assy.

(3) Remove two screws ⑤ and the brush bracket.

(4) Remove the slit washer ① and the inertia rollers with care not to lose springs, etc.

Note:When the slit washer is removed once, replace it with new one (Part No. PQM30017-25).

(5) The next procedure will differ depending on the circumstances whether the slip ring needs to replace or not.

① **- When slip ring needs to replace -**
Disconnect four wires (red, orange, yellow and black) that are soldered to the PRE/REC board from the slip ring, then, loosen the setscrews ② (1.27 mm) while removing the slip ring.

② **- When slip ring need not replace -**
Loosen the setscrews ② (1.27 mm) and proceed to do the next step (6) to remove together with the PRE/REC board.

(6) Unsolder the PRE/REC board by the four points (shown by ③ in Fig. 2-3-10) and remove the board.

Note:If it is tried to remove the PRE/REC board with incomplete unsoldering or with too much heating for unsoldering, the lower drum's pin may drop out of it. In that event, replace the drum assy as a whole.

(7) Unsolder at four points (as shown by ⑥ in Fig. 2-3-10) inside the UPPER DRUM board.

(8) Remove two screws ④ and detach the upper drum assy.

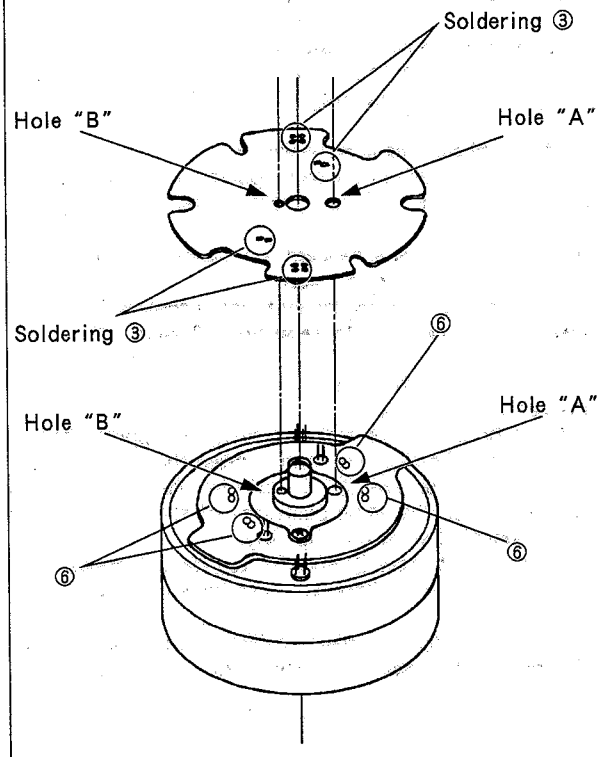
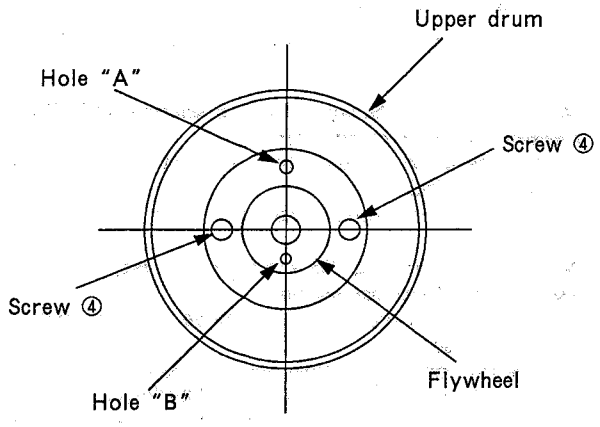
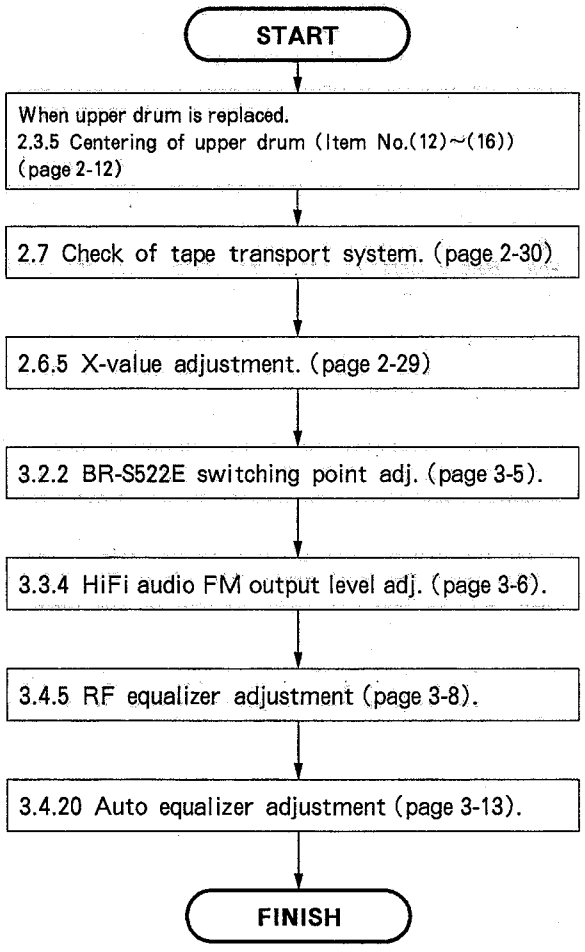


Fig. 2-3-10

No.	Item	Adjustment and Check
	- Reinstallation -	(1) Clean both the contact surfaces of the upper drum assy and the lower drum assy with alcohol. (2) Assemble the upper drum assy to the lower drum assy so that the upper drum's hole "A" (Φ 2.7) and the flywheel's hole "B" (Φ 1.6) are oppositely positioned at an angle of 180° . At that time, tighten the screw ④ with a torque of 4.5~5.0 kg-cm. (3) Check wobbling of the upper drum in the rim (see 2.3.5 item No.(1)~(10), page 2-12). (4) After confirming no wobble in the upper drum movement, solder the UPPER DRUM board. (5) Assemble the PRE/REC board to the drum assy so that the holes "A" and "B" of the PRE/REC board overlap the holes "A" and "B" mentioned in the above step (2) respectively, and solder the board (see Fig. 2-3-10, page 2-10). (6) The next procedure will differ depending on the circumstances whether the slip ring is replaced or not. ① **- When slip ring is replaced -** Install the slip ring and tighten the setscrew. Then solder four wires (red, orange, yellow and black) as specified. ② **- When slip ring is not replaced -** Confirm that the slip ring is correctly installed, and tighten the setscrew to fix it. (7) Install the brush assemblies (see 2.3.3, page 2-9). (8) After the above steps, proceed to the "Check and Adjustment" mentioned in the left column.
	 Fig. 2-3-11	
	- Check and Adjustment - 	

No.	Item	Adjustment and Check
5	**Centering of upper drum (To remove upper drum wobbling in the rim).** If the upper drum is installed being deviated from the center of the drum shaft, it causes jitter, etc. After replacement of the upper drum, if it was done, make sure to confirm no wobbling in the upper drum's rim.	

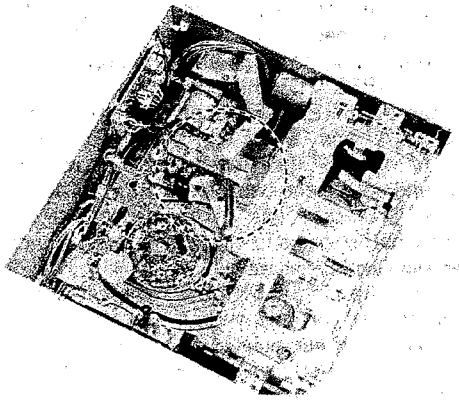
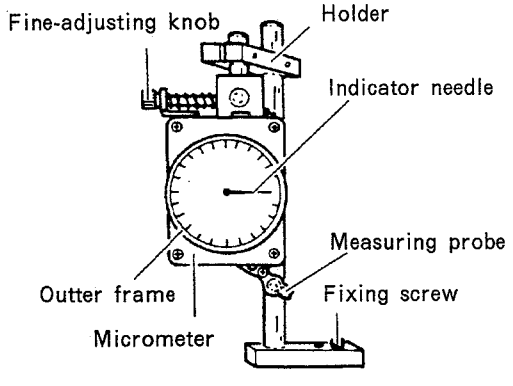


Fig. 2-3-12

▪ Cautions to handle microchecker

① Keep the microchecker out of any shock or strong vibration since it is a high precision instrument.
② Do not apply unnecessary force to the measuring probe.
③ Although the outer rim of the micrometer is turnable in a range of ±10 graduations, do not turn it with strong force (more than 300 gr-cm).
④ Be careful not to touch the microchecker with heads, particularly with the video heads.
⑤ On setting the microchecker, make sure that the working direction of the measuring probe points at the center of the upper drum.
⑥ If rubbing or grating sound occurs in measuring, it results from incorrect setting or abnormal contact of the microchecker. Confirm that there is no dust and other contamination on the upper drum and tip of the measuring probe.



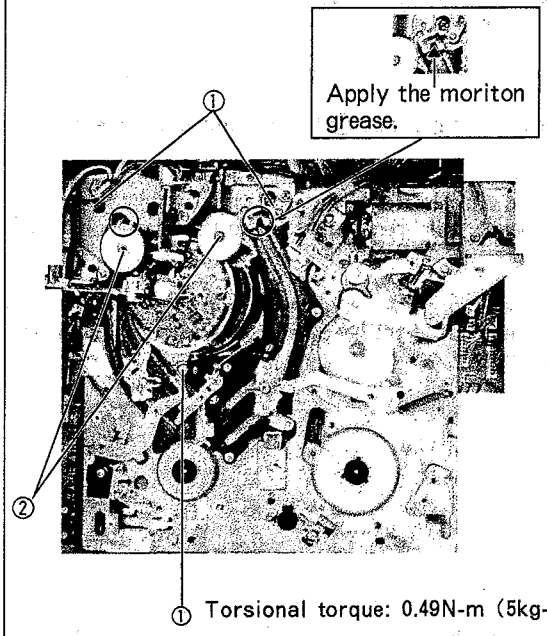
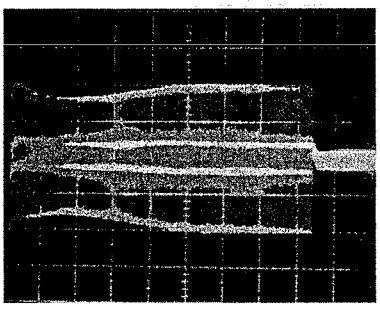
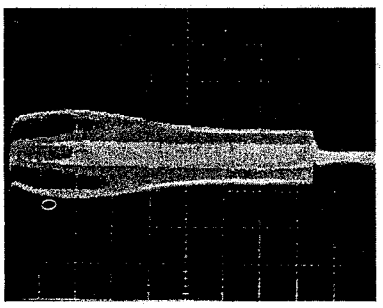
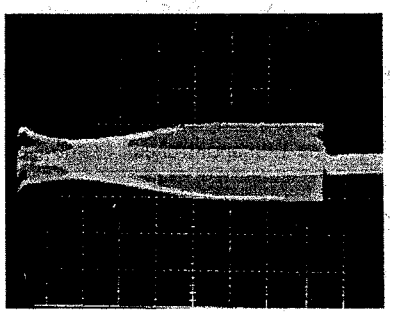
Microchecker PUJ49712-2

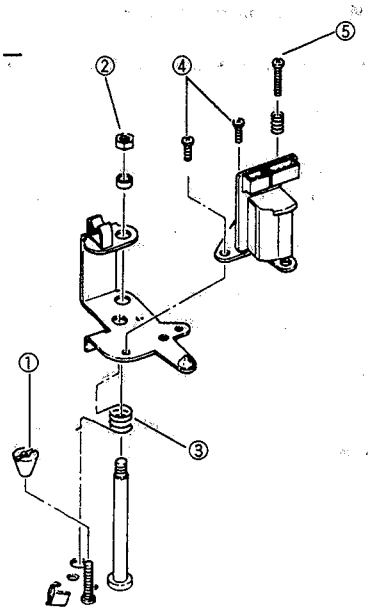
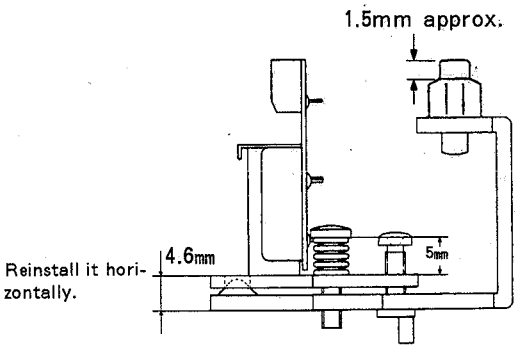
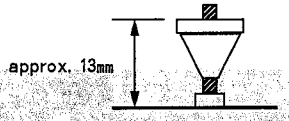
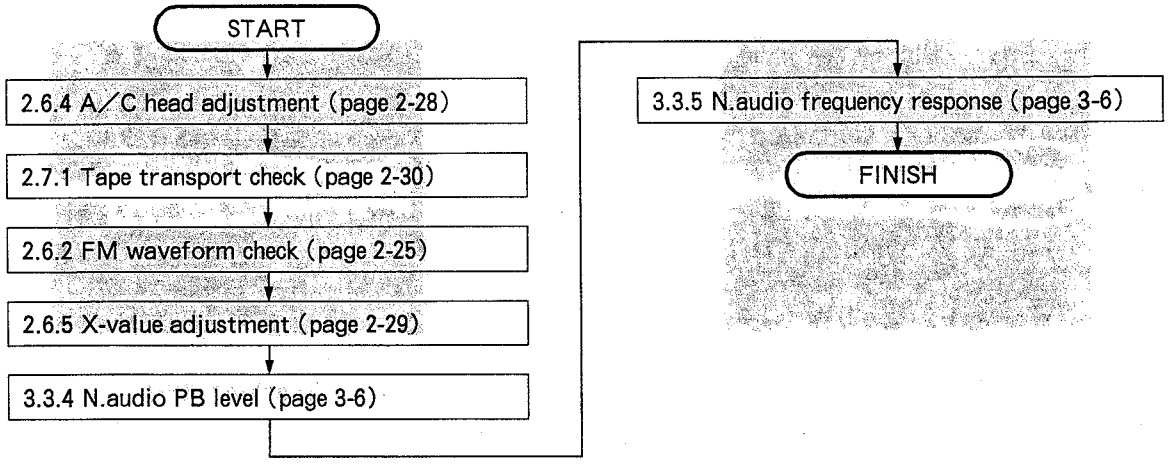
Note:For centering the upper drum, a setscrew (SDSP2610Z) is necessary besides a microchecker.

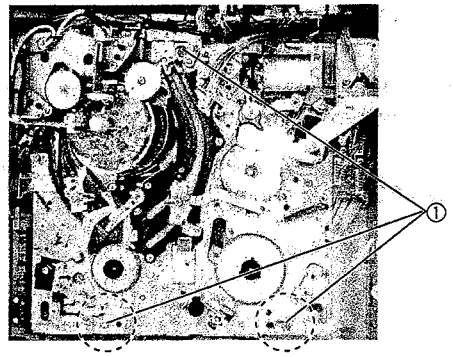
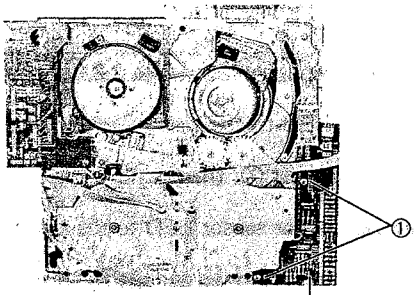
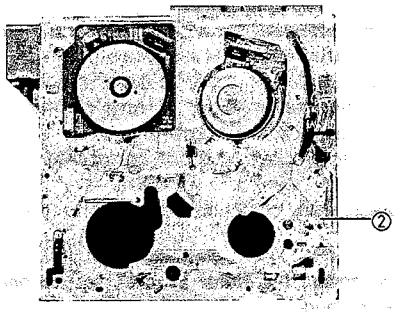
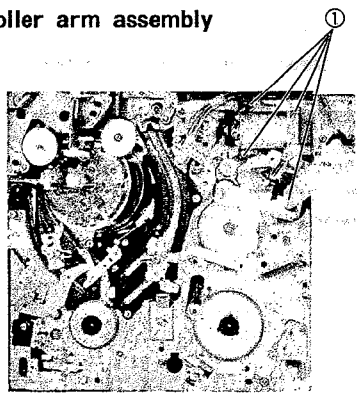
(1) Set the operation mode to the C. cassette mode and turn off the power switch.
(2) Remove the noise shutter from the pinch roller arm assembly. (525)
Note: Before removing the noise shutter, set the pinch roller ass'y to the downmost position.
(3) Prepare a microchecker and remove its hex. head screw from the base.
(4) Set the microchecker holder at the position shown in Fig. 2-3-12 and fix it with a setscrew (SDSP2610Z).
(5) Set the micrometer with care not to knock it against the upper drum.
(6) Slowly turn the fine adjustment knob of the microchecker clockwise until the pointer reads "0". Pointer adjustment is possible by turning the outer ring of the micrometer, but it must be within ±10 graduations. To apply the microchecker to the drum ass'y, place it between the 4th and 5th grooves of the drum from the top.
(7) Turn the upper drum gently (with a paper string, for instance) with care not to apply lateral pressure to it. If the pointer deflects, it must be for ±1 micron at maximum.
(8) When the pointer deflection exceeds ±1 micron, turn the fine adjustment knob counterclockwise and remove the measuring probe from the upper drum. Loosen two screws retaining the upper drum while adjustment its position slightly, and tighten the screws again.
(9) Check the pointer deflection again. If it is still out of the limit, repeat the above step until deflection becomes within ±1 micron.
(10) After deflection is confirmed allowable, turn the fine adjustment knob counterclockwise and remove the microchecker.
(11) Install the noise shutter. (525)
Note: Before installing the noise shutter, set the pinch roller ass'y to the downmost position.

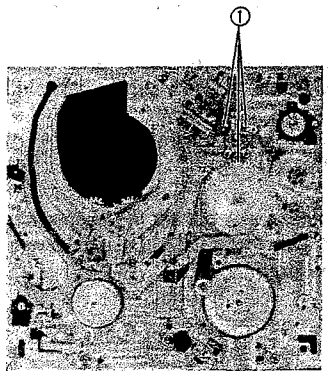
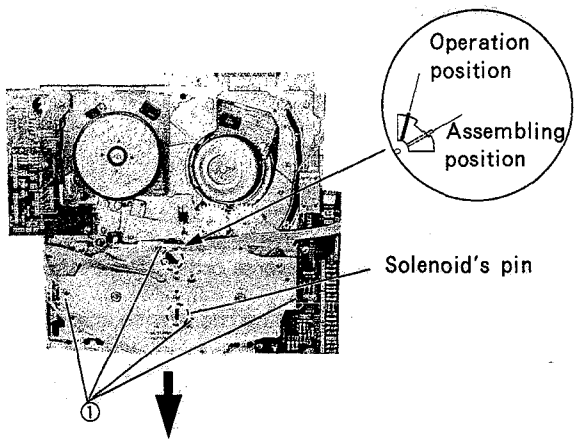
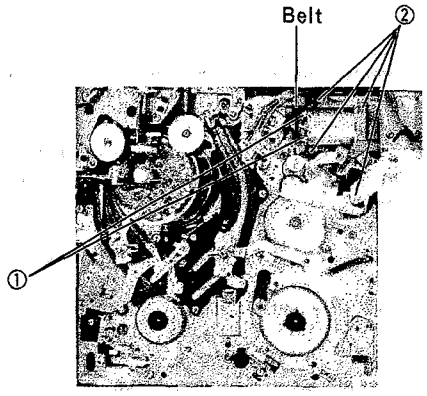
— Confirm relative height (only the BR-S522E) —

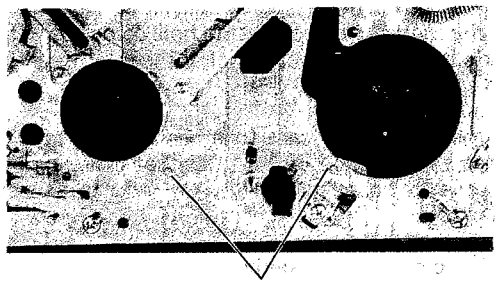
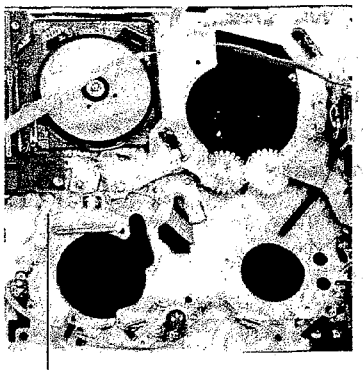
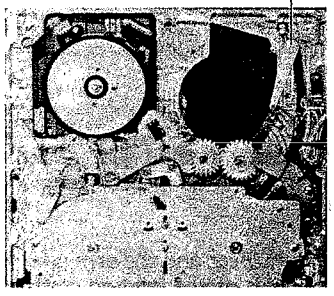
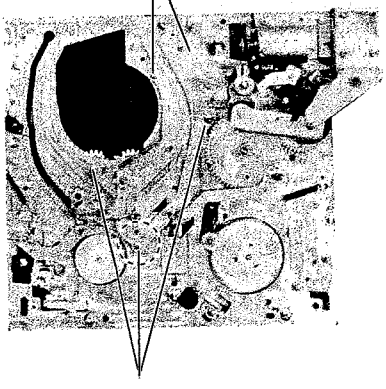
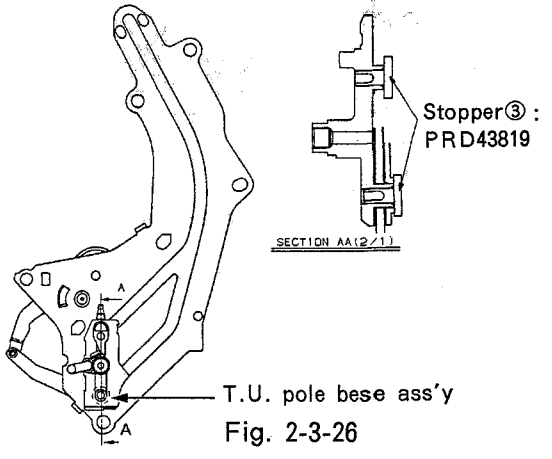
(12) Turn on the power switch and set the operation mode to the Full Cassette mode.
(13) Connect an oscilloscope's probe to the front service terminal "V-RF", and play the MHPE alignment tape.
(14) Turn the tracking VR while confirming that CH-1 FM waveform and CH-2 FM waveform are maximized at the same time.
(15) When the waveforms greatly differ from each other, remove the upper drum and clean both of the upper drum's lower surface and the upper surface of the lower drum's flywheel. After cleaning, repeat the above steps (1) through (14).
(16) If waveforms are still unsatisfactory after the above adjustment, it is recommended to replace the drum ass'y.

No.	Item	Adjustment and Check
6	**Drum assembly**  Fig. 2-3-13	***Note:When holding the drum ass'y, do not catch it by the brush ass'y.*** ***For replacing the pole base, do it after removing the drum ass'y.*** (1) Remove the SRH PRE board assembly. (525) (2) Referring to Fig. 2-3-9 (page 2-6 as 525 or page 2-9 as 522), remove the slit washer ②, then remove the inertia rollers. (3) Remove the head cleaner ass'y. (4) Remove three screws ① and disconnect connectors while removing the drum ass'y for replacing. (5) Reassemble the inertia rollers. (6) After the replacement, check and adjust according to the flowchart in page 2-8 as 525 or page 2-11 as 522.
	- **Reference** - **Before replacing drum assembly**  Tracking center  Tracking (−)	(1) Connect an oscilloscope's probe to the front service terminal "V-RF" and input "D-PULSE" to the oscilloscope for external triggering. (2) With the MHPE alignment tape being played back, turn the tracking control while observing the FM waveform. (3) When such waveforms as shown in the figures are observed, they indicate that drum leads are worn. In that event replace the drum ass'y.  Tracking (+)

No.	Item	Adjustment and Check
7	**A/C head** **—Replecement—**	▪ **Required tools** ▪ **Taper nut driver (PUJ50637)** ▪ **Nut driver (7 mm)** (1) Disconnect connectors from the A/C HEAD board. (2) Remove the taper nut ① for X-value adjustment. (3) Remove the nut ② and detach the A/C head together with the head base with care not to lose the spring ③ positioned underneath. Also pay attention to the spacer under the nut not to lose it. (4) After removing two screws ④ and a screw ⑤, take the A/C head out of the head base. At that time, be careful not to the spring. (5) Remove soldering from the A/C head and replace it.
	 Fig. 2-3-14	
	—Installation—	(1) Before reassembling the A/C head to the main deck, temporarily adjust its height as shown in the figure. (2) Reassemble the A/C head and its peripheral parts to the main deck in the reverse order of disassembling. (3) On setting the taper nut, adjust the height as shown in the figure below.
	 Fig. 2-3-15	
	—Check and Adjustment—	***Note: Before confirming normal tape transport, do not use any alignment tape to prevent it from damage. Make sure to check tape transport with an ordinary recording tape beforehand.***
	 	

No.	Item	Adjustment and Check
8	**Mechanism assembly**  Fig. 2-3-16	(1) Remove the cassette housing ass'y (see 2.3.1, page 2-5). (2) Remove the SRH PRE board assy (see1.2, page 1-2). (3) Remove three screws ①. (4) Disconnect connectors (refer to 2.2.4, page 2-4) from the mechanism ass'y. (5) Hold up the mechanism ass'y and disconnect connectors form the lower drum ass'y while removing the mechanism ass'y. (6) When reinstalling the mechanism ass'y, make sure to insert specified collars. ***Note: IF any collar was not set in the specified portion, insert two collars (Part No. PRD44048) in the screw holes bordered by broken lines respectively.***
9	**Tension arm assembly** **—Removal—**  Fig. 2-3-17 [9][2] DECK TERMINAL board	(1) Remove the mechanism assy (see 2.3.8, page 2-15). (2) Remove two screws ① and remove the DECK TERMINAL-2 board. (3) Remove the slit washer ② and lift the tension arm ass'y upward to remove it (see Fig. 2-3-18). ***Note: When the slit washer is removed once, replace it with new one (Part No. PQM30017).***
	—Reinstallation—  Fig. 2-3-18	(1) Reassemble the tension arm ass'y and its peripheral parts to the main deck in the reverse order of removing. (2) After reinstalling or replacing the tension arm ass'y, adjust and check the following items. ① Tape transport system adjustment (see 2.7.1, page 2-30). ② Reel servo circuit adjustment (see 2.5.1, 2.5.2, 2.5.3, 2.5.6, 2.5.7 and 2.5.8, as shown on page 2-20).
10	**Pinch roller arm assembly**  Fig. 2-3-19	***Note: For removing the motor bracket, set the operation mode to the C. cassette mode.*** (1) Remove the noise shutter.(525) ***Note: When installing the noise shutter to the pinch roller ass'y, make sure to set the pinch roller ass'y to the downmost position or remove it.*** (2) Remove four screws ① and remove the motor bracket. (3) Lift the pinch roller arm assembly upward to remove it. (4) For installing the pinch roller arm assembly pay careful attention to the phase of respective gears referring to the item No. 1 of "2.4 Assembling of Mechanism", page 2-18. (5) Assemble the noise shutter to the pinch roller arm assy.(525)

No.	Item	Adjustment and Check
11	**Capstan motor**  Fig. 2-3-20	(1) Remove the mechanism ass'y (see 2.3.8, page 2-15). (2) Remove the pinch roller arm ass'y referring to 2.3.10, page 2-15. (3) Remove three screws ① and disconnect connectors. Then, remove the capstan motor. (4) When the capstan motor is replaced, check and adjust the capstan FG duty ratio and the level (see 3.2.1, page 3-5).
12	**Reel motor**  Fig. 2-3-21	(1) Remove the mechanism assy (see 2.3.8, page 2-15). (2) Set the sensor LED to the assembling position. (3) Remove four screws ①, then remove the reel motor ass'y. (4) Set a new reel motor sensor LED to the assembling position. (5) On installing, be careful to engage the brake lever with the solenoid's pin exactly. (6) Return the sensor LED to the operation position. (7) When the reel motor ass'y is replaced, check and adjust the reel FG duty (see 2.5.5, page 2-23). ***Matters to call attention for replacing the LED HOLDER and the SOLENOID of the reel motor assembly.*** ① When using a soldering iron, be careful not to damaged any magnet of the reel motor. If any of them is damaged, replace the reel motor assembly. ② Carefully arrange the wires not to interfere the springs and the reel. ③ After replacement, make sure to fix the wires with bond or the like.
13	**Loading motor**  Fig. 2-3-22	***Note: For removing the motor bracket, set the operation mode to the C. cassette mode.*** (1) Disengage the drive belt from the motor pulley and remove it. (2) Remove four screws ② and the motor bracket. (3) Remove two screws ① and remove the loading motor. ***Note:Install the motor bracket pay attention to the phase of respective gears referring to the item No.1 "2.4 Assembling of Mechanism", page 2-18.***

No.	Item	Adjustment and Check
14	**Main brake, T.U. sub brake** Condition that reel motor is removed  Slit washer : PQM30017-6 Fig. 2-3-23	(1) Remove the mechanism ass'y (see 2.3.8, page 2-15). (2) Remove the reel motor (see 2.3.12, page 2-16). (3) Remove the slit washer, then remove the main brake and sub brake. ***Note:When the slit washer is removed once, replace it with new one (Part No. PQM30017-6).***  Slit washer : PQM30017-6 Fig. 2-3-24
15	**Pole base assembly** Stopper : PRD43818  ① SDSP2608M  ② SDSP2604Z Fig. 2-3-25	(1) Remove the mechanism ass'y (see 2.3.8, page 2-15). (2) Remove the drum ass'y (see 2.3.6, page 2-13). (3) **Supply pole base** ① Turn the loading motor counterclockwise to set the mechanism to the loading end position. ② After removing the stopper, lift the pole base ass'y upward while removing it. (4) **Take-up pole base** ① Remove the A/C head ass'y (see 2.3.7, page 2-14). ② Remove two screws ① and three screws ②, then take the T.U. loading ass'y away. When removing the screws ②, be careful not to lose spacer. ③ Remove two stoppers ③ and lift the pole base ass'y upward to remove it. ***Note:When the stoppers are once removed, replace them with new ones.*** (5) For installing the T.U. loading assy pay careful attention to the item No.2 of "2.4 Assembling of Mechanism", page 2-18. (6) After replacing the TU pole base, check the following items. ① A/C head adjustment (see 2.6.4, page 2-28). ② Tape transport check (see 2.7.1, page 2-30). ③ FM waveform check (see 2.6.2, page 2-25).  Fig. 2-3-26

2.4 ASSEMBLING OF MECHANISM

No.	Item	Adjustment and Check
	In the mechanism of this model, there is a close relation between the rotary encoder and the mechacon circuit. Namely, operations of the mechanism parts are determined by rotational angle of the rotary encoder, in detail, cam gear's rotational angle. If there is something installed abnormally in these mechanism parts, it causes malfunction of the mechanism. **Assembling of mechanism parts of this model must be performed in the C. cassette mode (the pole base assy is returned to the utmost reel side).**	
1	**Cam gear** **Pinch roller cam** **Pinch roller** **Control cam** **Guide arm gear**	(1) Set the control cam so that its hole coincides with the main deck's hole, and temporarily fix them by inserting a precision screwdriver, etc. (2) Fit the pinch roller cam together with its hole being positioned as shown in Fig. 2-4-1. At that time, insert the pin of the cassette housing lever into the inner groove of the pinch roller cam. (3) Fit the pinch roller together. (4) After adjusting the phase of the rotary encoder, engage the cam gear with care of its phase. **• Working points** ① Fix the control cam with a precision screwdriver, etc. to prevent it from rotating. ② Make sure to insert the pin of the cassette housing lever into the inner groove of the pinch roller cam. Then move the F/C change lever of the cassette housing leftward. ③ Fit the cam gear's pin into the hook of the rotary encoder.
2	**Loading gear(S)** **Loading gear(T)** **Cancel lever** **Arm gear**	(1) Assemble the supply loading gear and the take-up loading gear to the main deck as respective gear holes of the two face each other. (2) Engage the cancel lever and the arm gear with them as their holes face the holes of the loading gears respectively. **• Working point** ① When engaging the arm gear, turn the control cam clockwise as viewed from the deck's back side (in other words, turn the loading motor counterclockwise) so that the arm gear's pin is put in the outer groove of the control cam.

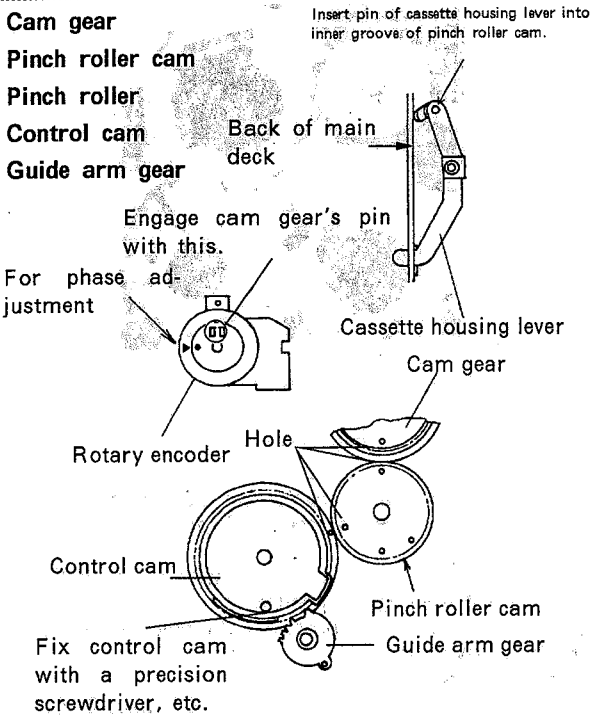


Fig. 2-4-1

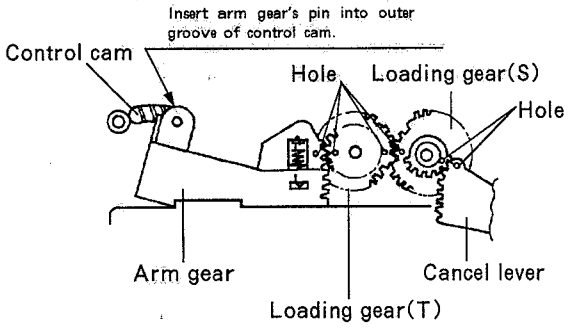


Fig. 2-4-2

No.	Item	Adjustment and Check
3	Mechanism parts arrangement	

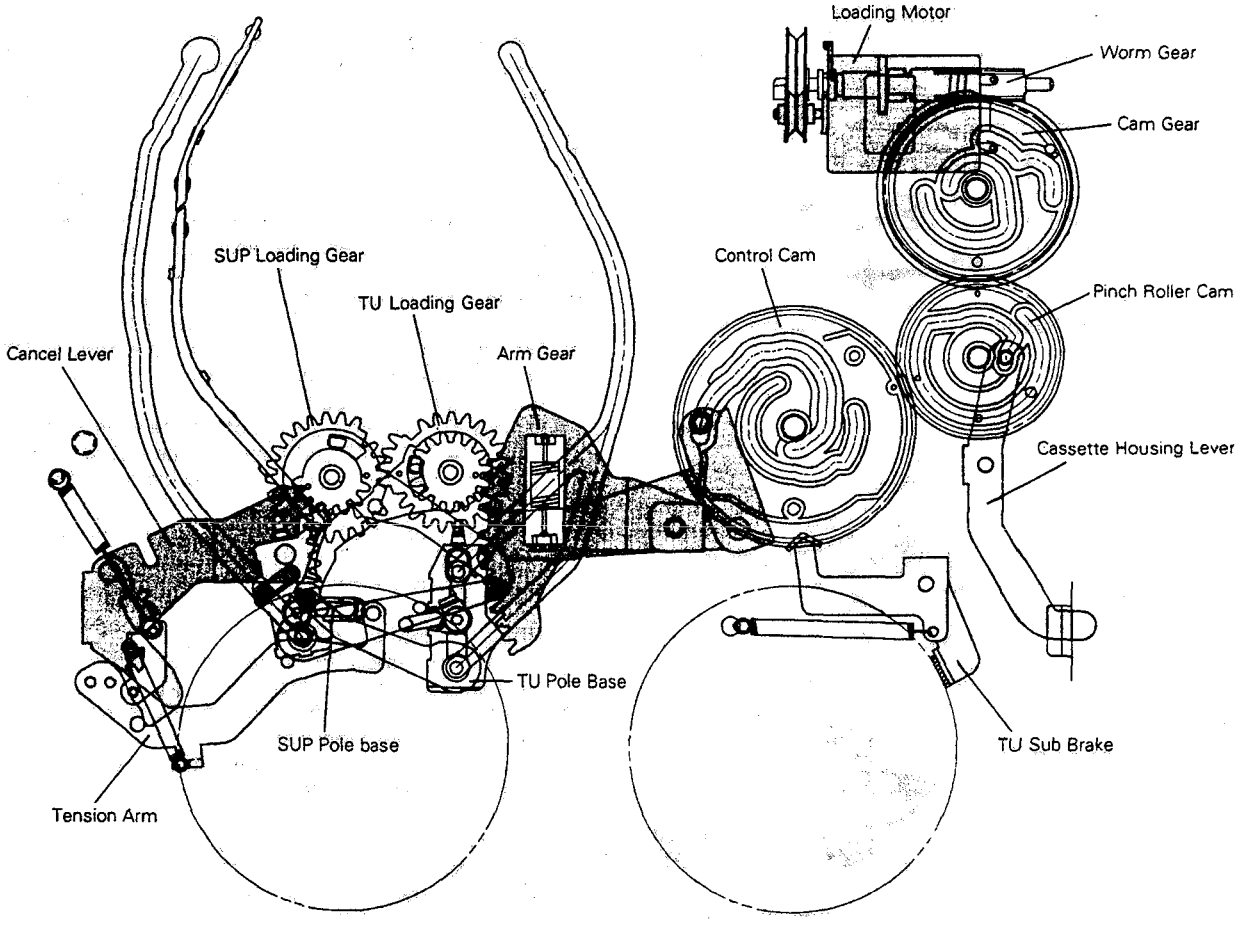


Fig. 2-4-3

2.5 ADJUSTMENT OF REEL SERVO CIRCUIT

No.	Item	Adjustment and Check
	Note: 1. Setting back of the cassette torque meter must be performed in the Search (×10) mode, otherwise it may be damaged. Do not do it in the FF/REW mode and the Reel Search mode. **2. In the middle of torque adjustment, pressing SW2 varies torque by 2 g-cm at each pressing.** **3. If the cassette torque meter reaches the tape end or the tape beginning in the middle of adjustment, repeat it from 1) of the following adjustment steps.** **4. In the following description, all test points and adjustment parts are located on 3 1 M.CTL & R.SERVO board unless otherwise specified.** **5. Location map of test points and adjustment parts is printed in page 2-21.**	
1	**Tension sensor position**	• **Required jigs:** **• Spacer (0.1 mm thick) or, PRD40300 (earth plate on the sub deck of BR-S811 type)** **• Tension arm positioning jig (PGJ04031)** (1) Turn off the power once and remove the cassette housing. After setting SW1 as shown on the left, again turn on the power. (2) The mechanism is in the loading end stop mode. (3) Loosen the setscrew ① and move the base of the tension sensor in the direction of the arrow → to the extent. Then tighten the setscrew ①. (4) Loosen the setscrew ② slightly. (5) Insert a spacer of 0.1 mm thick between the tension sensor and the tension arm shaft as shown in the figure, and adjust the position of the tension sensor so that the gap between the tension sensor and the tension arm shaft is 0.1 mm. After adjustment, tighten the setscrew ②. (6) Remove the spacer and connect a digital voltmeter to TP6 measure output voltage. Take note of the data as V1. (7) Set the tension pole to the "MAX" position of the tension arm positioning jig, and measure the output voltage. Take note of this result as V2. (8) Change the setting position of the tension arm positioning jig to the "PLAY" and measure the output voltage (V3). Confirm that V3 meets the following specifications. V3≦0.581 • V1+0.419 • V2 (upper limit) V3=0.631 • V1+0.369 • V2 (center) V3≧0.681 • V1+0.319 • V2 (lower limit) (9) If not, proceed as follows. ① If out of the upper limit, loosen the setscrew ① and move the hall element leftward. ② If out of the lower limit, loosen the setscrew ① and move the hall element rightward. ③ In either case, the gap between the tension sensor and the tension arm shaft must be 0.1 mm. (10) Again check the above steps 6) through 8). (11) After confirming the results satisfactory, apply screw sealant to the setscrews ① and ②. (12) On completion of the above procedure, check and adjust the following items. ① Hall element output bias (see 2.5.2, page 2-21) ② Hall element output gain (see 2.5.3, page 2-21) ③ Play mode back tension (see 2.5.6, page 2-23) ④ Reverse (×1) torque (see 2.5.7, page 2-23) ⑤ Tension warning data setting (see 2.5.8, page 2-24)

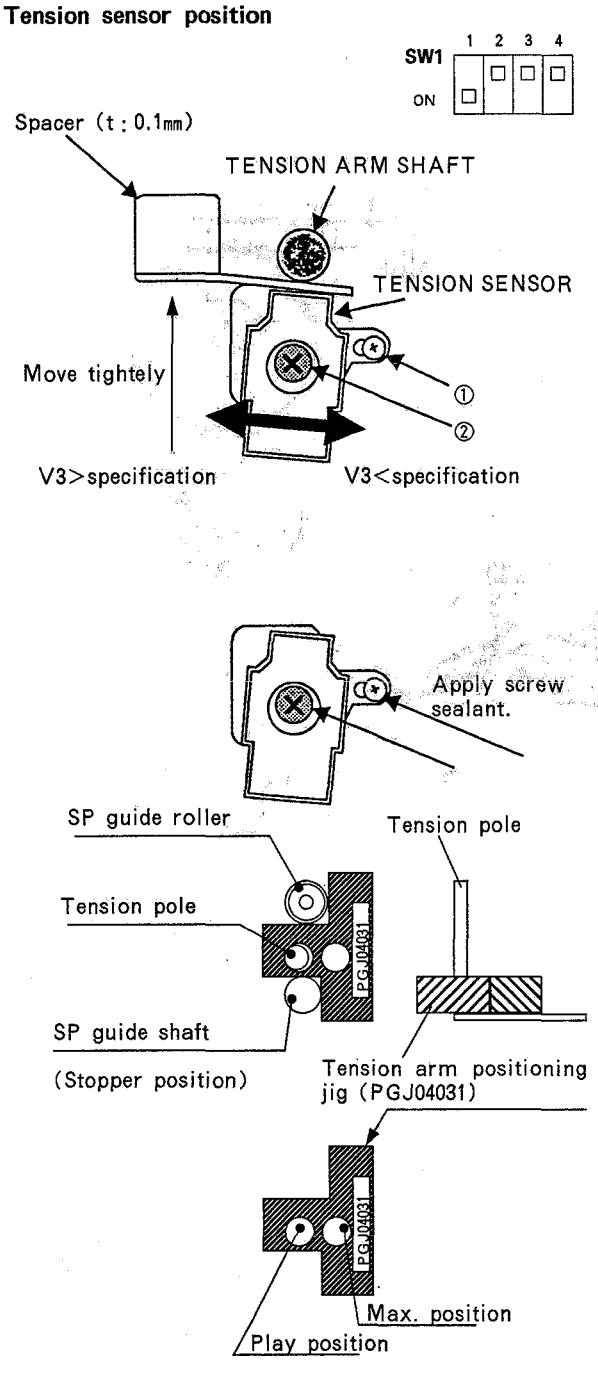
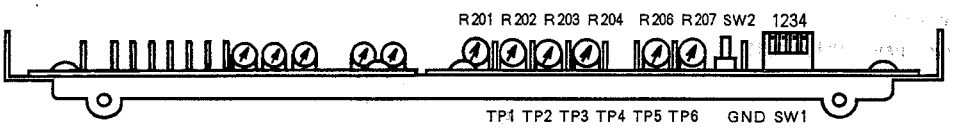


Fig. 2-5-1

No.	Item	Check point	Adjustment parts	Signal & Mode	Adjustment and Check
Arrangement of test points and VRs					
2	**Hall element output bias**	TP6	R206 (TEN BIAS)	SW1 1 2 3 4 ON	(1) Turn off the power once. Set SW1 as shown on the left and again turn on the power. (2) The mechanism is in the loading end stop mode. (3) Connect a digital voltmeter to TP6 and adjust R206 so that the voltmeter reads 0±0.05V. Take note of this result as V1. (4) Set all switches of SW1 to OFF and turn off the power again. (5) After the above steps, check and adjust the following items. ① Hall element output gain (see 2.5.3, page 2-21) ② Play mode back tension (see 2.5.6, page 2-23)
3	**Hall element output gain**	TP6	R207 (TEN GAIN)	SW1 1 2 3 4 ON	• **Required jig: Tension arm positioning jig (PGJ04031)** (1) Turn off the power once. Set SW1 as shown on the left and turn on the power again. (2) Set the tension pole to the "MAX" position of the tension arm positioning jig. (3) Connect a digital voltmeter to TP6 and adjust R207 so that the voltmeter reads as follows. X = V1+5±0.05 V (V1: voltage at the stopper position measured by 2.5.2, page 2-21) (4) Set all switches of SW1 to OFF and turn off the power again.

D/C SERVO 30 M-CTL/REEL SERVO 31



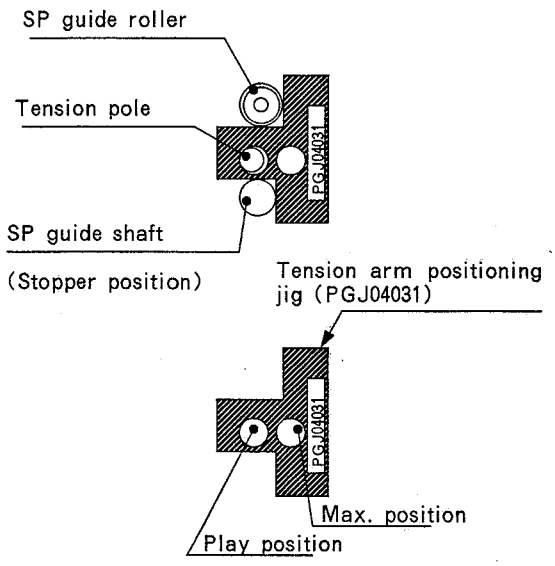
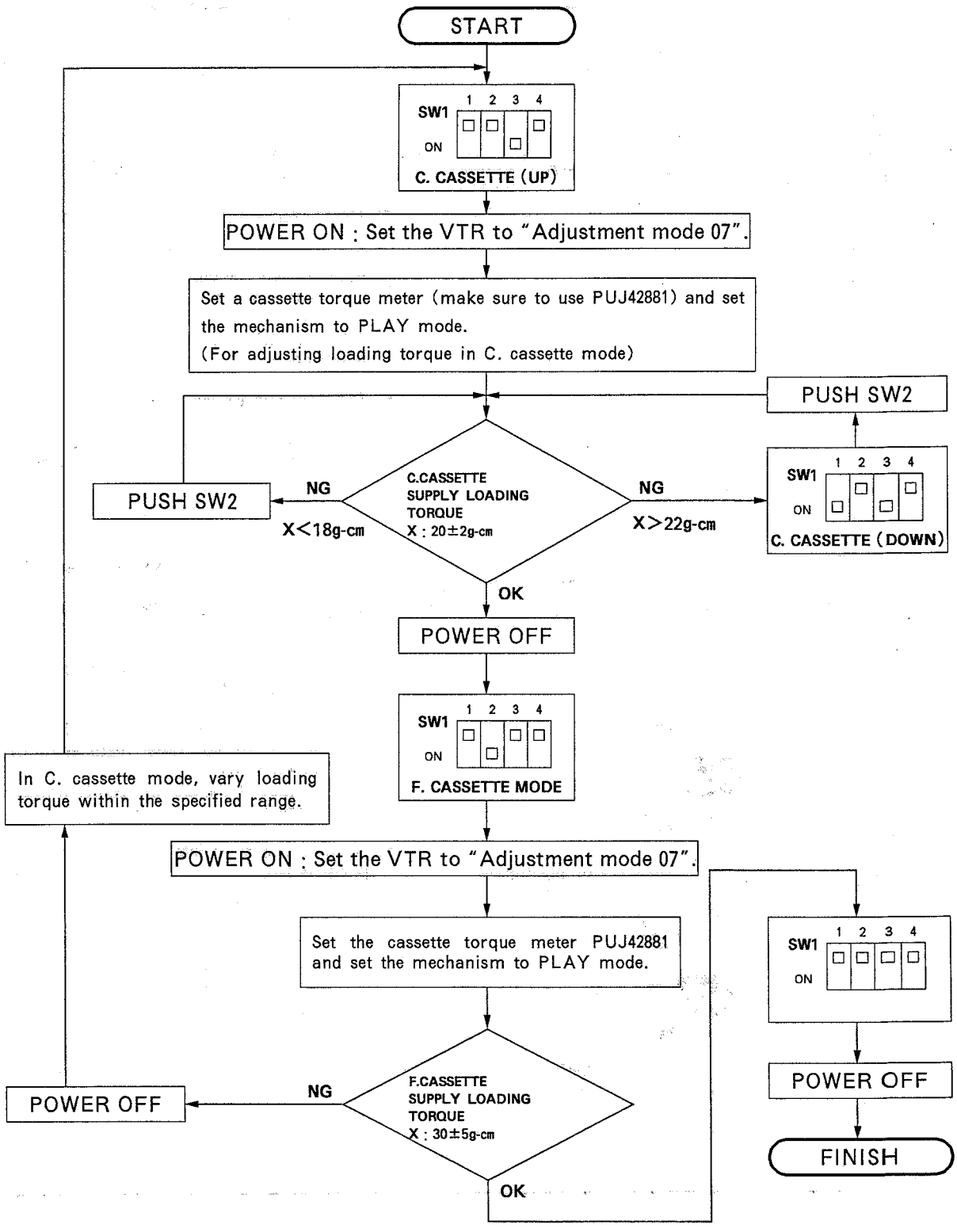


Fig. 2-5-2

No.	Item	Check point	Adjustment Parts	Signal & Mode	Adjustment and Check
4	Loading torque				

According to the following flowchart, adjust loading torque in the C. cassette mode first, then, check loading torque in the F.cassette mode. For torque adjustment, press SW2 to increase torque by 2 g-cm approximately at a time.

- Required instrument:
  Cassette torque meter PUJ42881

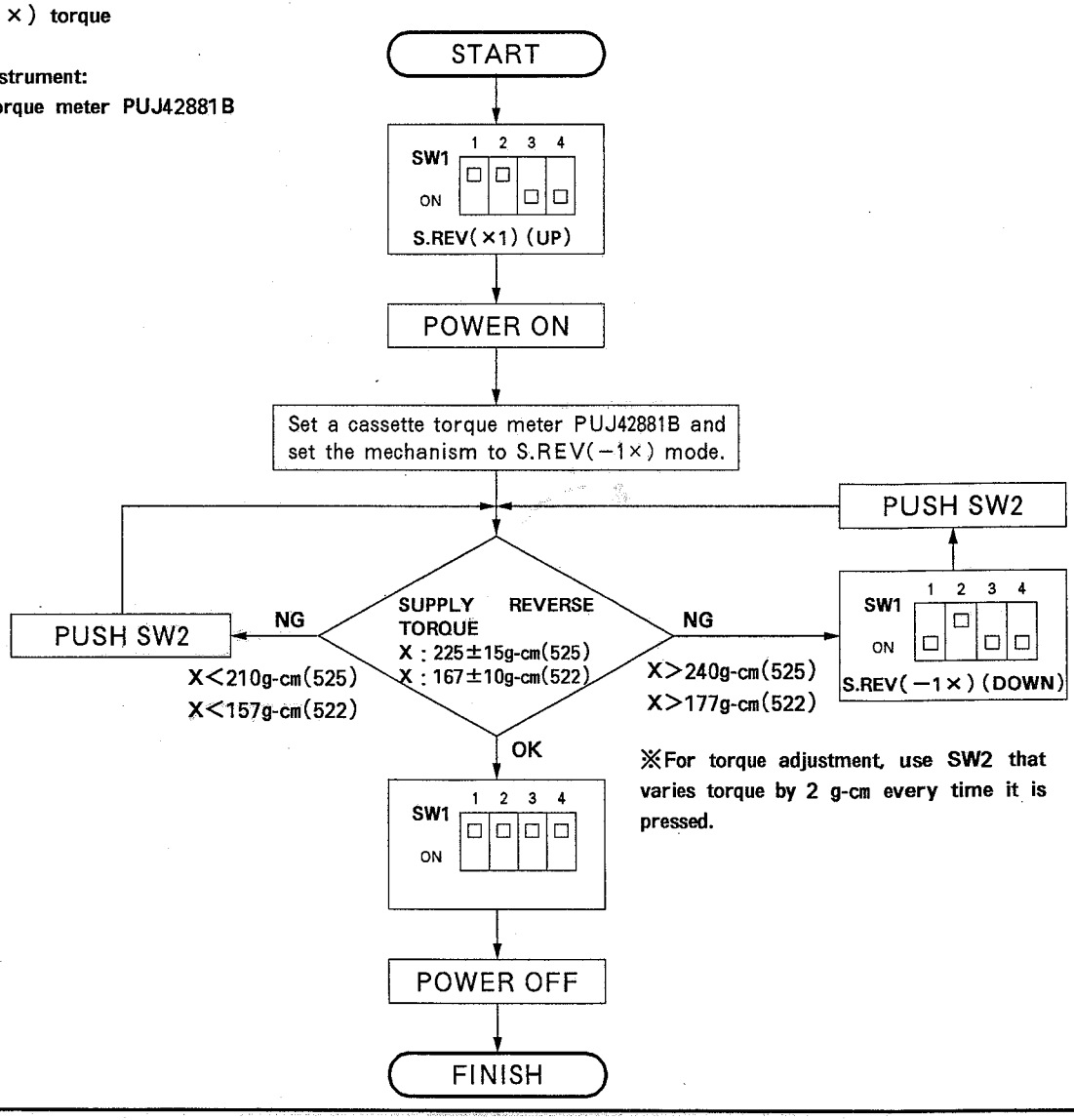


No.	Item	Check point	Adjustment parts	Signal & Mode	Adjustment and Check
5	Reel FG duty	TP1 TP2 TP3 TP4	R201 (SP FGA) R202 (SP FGB) R203 (TU FGA) R204 (TU FGB)	SW1 ON 1 2 3 4	(1) Turn off the power once, and set SW1 as shown on the left. Again turn on the power and the mechanism enters the adjustment mode. (2) Connect an oscilloscope to TP1. (3) Adjust R201 so that the duty ratio becomes 50 ± 5 %. (4) Perform the same adjustment with other TPs. (5) Set all switches of SW1 to OFF and turn off the power again.
6	Play mode back tension	Cassette torque meter (PUJ42881)	R206(TENS BIAS)	SW1 ON 1 2 3 4 • PLAY (Adjustment mode 7)	(1) Turn off the power once and set SW1 as shown on the left. (2) Then, set the VTR to "Adjustment mode 07". (See sec.1.8 as shown on page 1-27.) (3) Set the cassette torque meter and set the operation mode to PLAY. (4) Adjust R206 so that back tension (value at the supply side) becomes 58±3 g-cm. (5) Set all switches of SW1 to OFF and turn off the power again.

SP BACK TENSION	58±3 g-cm
TU torque	170±20 g-cm

7 Reverse (−1×) torque

• Required instrument:
Cassette torque meter PUJ42881B



※For torque adjustment, use SW2 that varies torque by 2 g-cm every time it is pressed.

No.	Item	Check point	Adjustment parts	Signal & Mode	Adjustment and Check
8	Tension warning data setting				

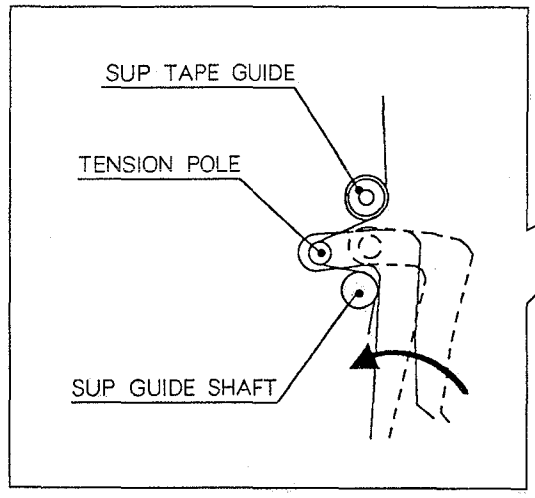
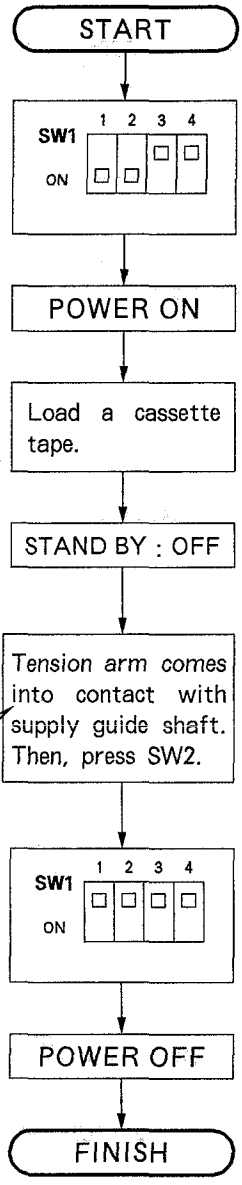


Fig. 2-5-3



2.6 INTERCHANGEABILITY ADJUSTMENT

No.	Item	Adjustment and Check
	Replacement of the upper drum ass'y, drum ass'y, A/C head ass'y, etc. has need of interchangeability adjustment.	
1	**Names of main parts**	

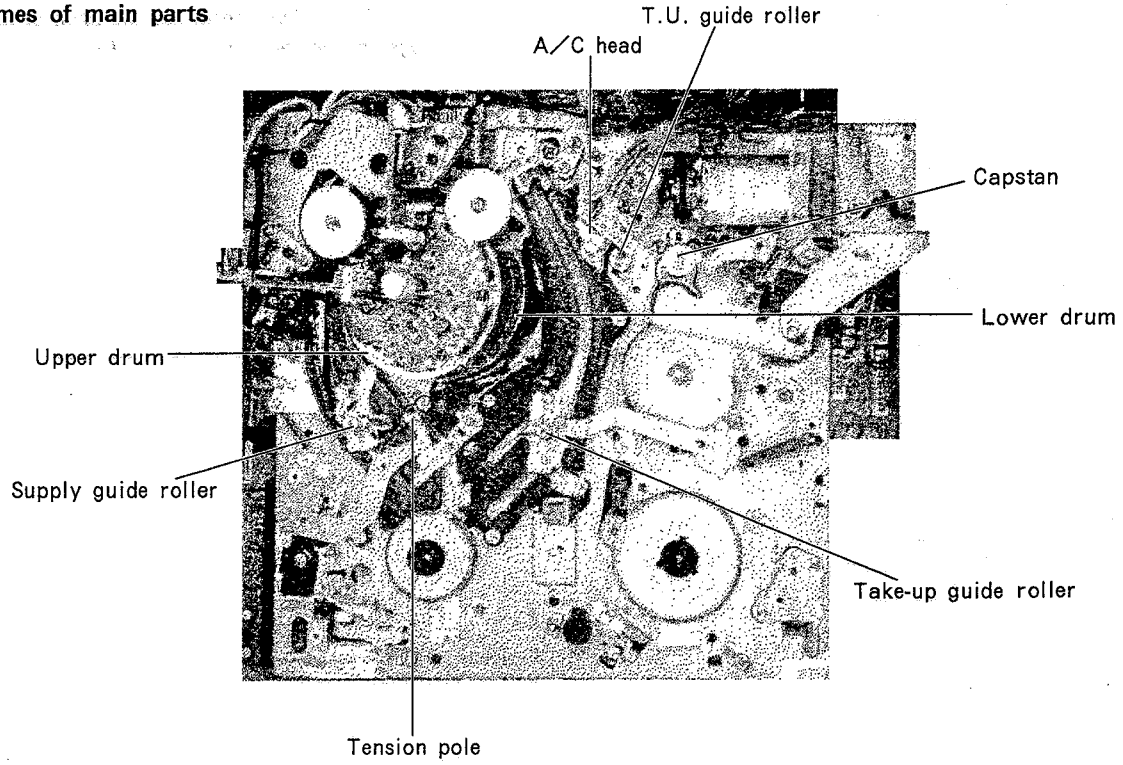


Fig. 2-6-1

2	**FM waveform check**	

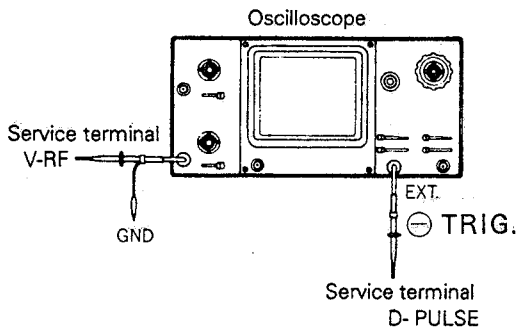


Fig. 2-6-2

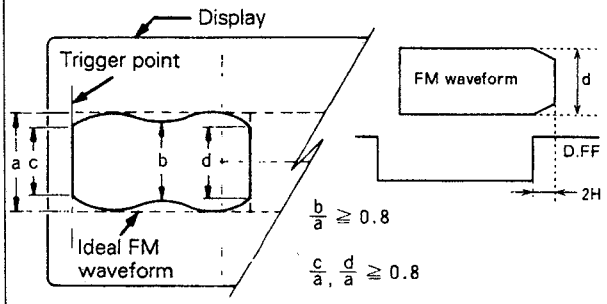


Fig. 2-6-3

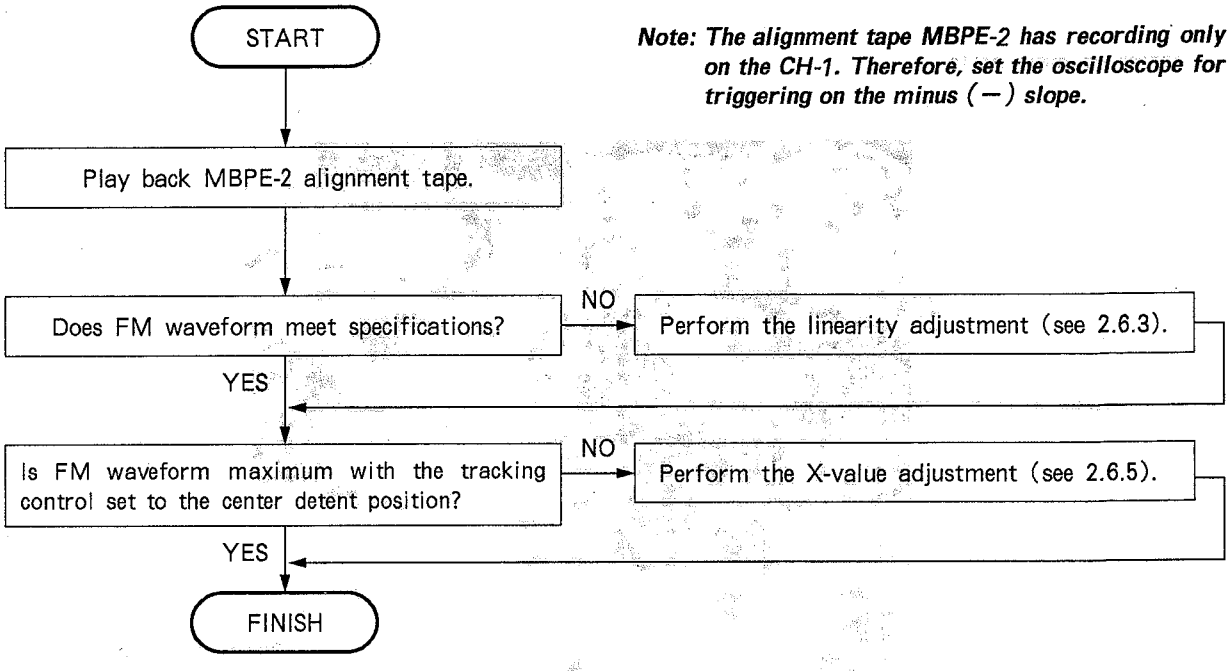
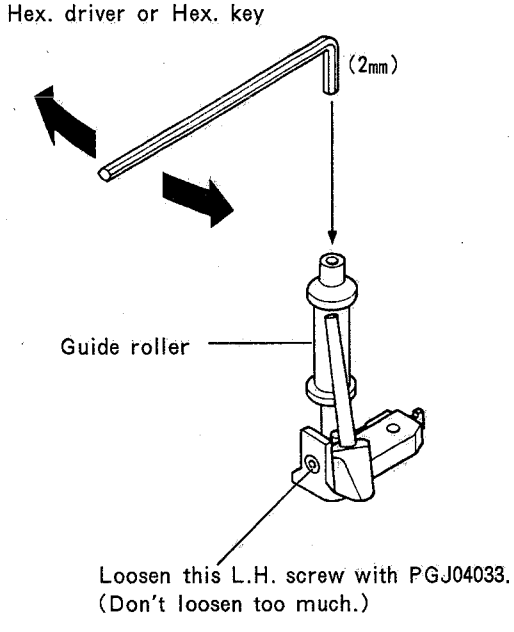
Note: Prior to use of any alignment tape, confirm normal operation of the tape transport system with a general recording tape.

(1) For observing FM waveform, connect an oscilloscope's probe to the front service terminal "V-RF" while connect the other probe to the "D-PULSE" front service terminal for external sync. signal input. Observe waveform on the minus (−) slope.

(2) With the MBPE-2 alignment tape being played back, adjust the tracking control to maximize FM waveform. Measure respective levels shown in Fig. 2-6-3 and confirm that the ratio of each level to the maximum level (a) meets the specifications.

(3) When the maximum level (a) is set for 4 graduations of the oscilloscope scale, each level (b), (c), (d) should be for 3.2 graduations or more.

Note: To set the maximum level (a) for 4 graduations, adjust the oscilloscope's gain control with the tracking control set to the maximum position.

No.	Item	Adjustment and Check
		***Note: The alignment tape MBPE-2 has recording only on the CH-1. Therefore, set the oscilloscope for triggering on the minus (−) slope.***
3	**Interchangeability adjustment** **- Linearity adjustment -**  Fig. 2-6-4	(1) **Cautions for adjustment:** • For linearity adjustment, play back the MBPE-2 alignment tape. • For observing FM waveform, connect an oscilloscope's probe to the front service terminal "V-RF" while connect the other probe to the "D-PULSE" front service terminal for external sync. signal input. Observe waveform on the minus (−) slope. • If FM drop cannot be corrected by guide roller adjustment, it needs to replace the drum ass'y. This case applies to the condition that the same phenomenon occurs in both of CH-1 and CH-2 FM waveforms when play back the MHPE alignment tape. • Examples of FM waveform with a worn lower drum are shown in the previous section 2.3.6 "Drum assembly", page 2-13. • **Required tools:** ▪ Hex. driver (PGJ04034) or, Hex. key (2 mm) ▪ Line head wrench (PGJ04033)

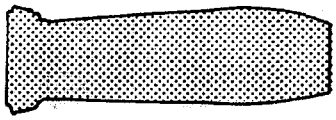
No.	Item	Adjustment and Check

MBPE-2

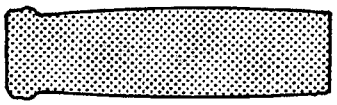
Note: The alignment tape MBPE-2 has recording only on the CH-1. Therefore, set the oscilloscope for triggering on the minus (−) slope.

Observe FM waveform.

Adjust the tracking control to observe waveform with ease.



Turn the guide roller to flatten waveform.

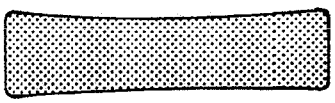


Adjust the tracking control to decline output level to 2/3 of the maximum level approximately.

Turn the guide roller counterclockwise to raise waveform in the both sides.



Lower the guide roller gradually and stop lowering just before waveform becomes flat in the both sides.



Proceed to the X-value adjustment. (See 2.6.5.)

No.	Item	Adjustment and Check
4	**A/C head adjustment** **If the A/C head is incorrectly positioned, it causes drop down or poor S/N ratio in playback audio signal, or misaligned servo without picking-up of control signal in the worst case when a recorded tape is played back.**	

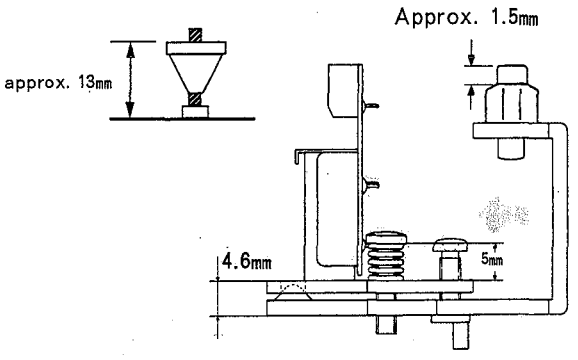


Fig. 2-6-5

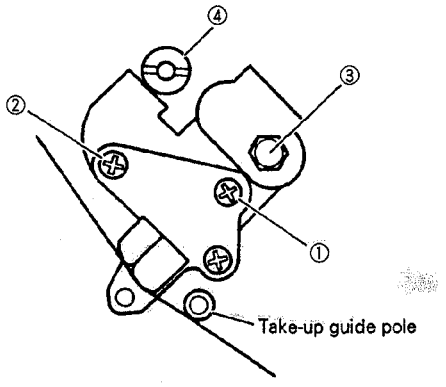


Fig. 2-6-6

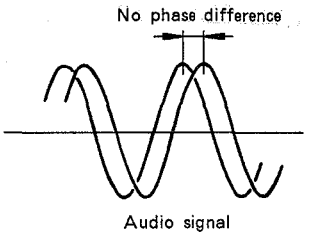


Fig. 2-6-7

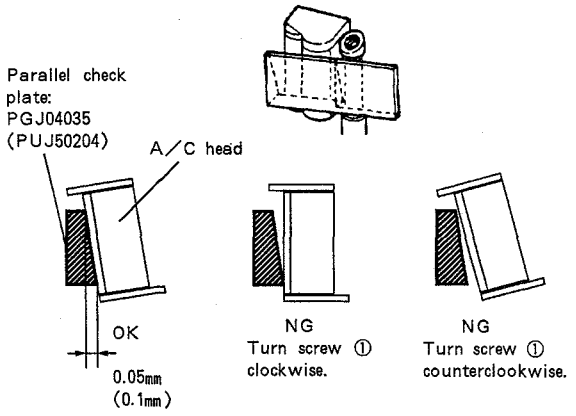


Fig. 2-6-8

- **Required tools and alignment tapes:**
  - Nut driver (7 mm)
  - Alignment tapes (MBAE-3, MHPE, MBAE)
  - Parallel check plate: PGJ04035 (0.05)
    PUJ50204 (0.1)

(1) **Temporary height check before adjustment**

① At the stage of tape transport check prior to proceeding to adjust the A/C head, fix the A/C head at a temporary height in order to prevent the alignment tape from being damaged as well as to perform adjustment with ease.

(2) **Tilt (forward bent) adjustment**

① With the parallel check plate (PGJ04035 for 0.05), adjust the setscrew ① to tilt the A/C head to match the plate. If there is a gap in the upper part of the A/C head, tighten the setscrew ① to increase the tilt. If there is a gap in the lower part of the A/C head, loosen the setscrew ① to decrease the tilt.

② Confirm that the tape is not wrinkled and damaged at the lower flange of the take-up guide roller. If so, fine adjust the height of the take-up guide roller.

(3) **Adjustment of A/C head height and azimuth**

① Connect an oscilloscope's CH-1 to TP3 on 2 1 AUDIO-1 board and CH-2 to TP4, and set the oscilloscope to the CHOP mode.

② Play back the alignment tape MBAE-3 while turning the hex. head nut ③ to minimize both CH-1 and CH-2 output levels by adjusting the A/C head height.

③ Play back the alignment tape MHPE while turning setscrew ② to match CH-1 and CH-2 output waveforms in the phase as well as to maximize the output levels. (azimuth adjustment)

④ Repeat the above steps ② and ③ alternately for finer adjustment.

(4) **Azimuth check**

① Connect an oscilloscope's CH-1 to TP3 on 2 1 AUDIO-1 board and CH-2 to TP4, and set the oscilloscope to the CHOP mode.

② Play back the alignment tape MBAE and confirm no phase difference between CH-1 and CH-2 output waveforms (allowance: 0.1 m sec or less). If phase difference is more than 0.1 m sec, repeat the previous item No.(3) "Adjustment of A/C head height and azimuth".

(5) **A/C head parallel check**

① With the parallel check plate (PUJ50204), confirm that tilt of the A/C head is within 0.1 mm on the measurement basis shown in the figure.

② If not, repeat the above adjustment procedures from No.(2) "Tilt adjustment" to No.(4) "Azimuth check".

No.	Item	Adjustment and Check
5	**X-value adjustment** If the X-value is adjusted incorrectly, it results in time lag between picture and normal sound in playback of a tape recorded by a set whose X-value is correctly adjusted.	

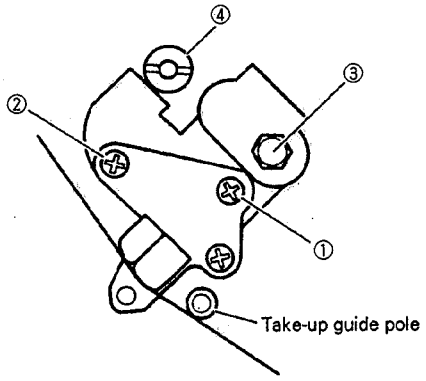


Fig. 2-6-9

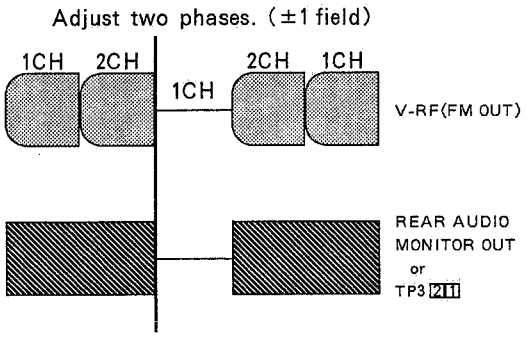


Fig. 2-6-10

- **Synchronizing of oscilloscope:**

① Set the oscilloscope's time sweep to 10 m sec.

② In synchronization with D. FF signal, turn the oscilloscope's HOLD OFF knob in the (+) direction to stabilize non-recording portion.

- **Required tool and alignment tapes**
  - Taper nut driver (PUJ50637)
  - Alignment tapes (MBPE-X, MHPE)

- **For BR-S525**

(1) **Preparation**

① Set the PB HEAD switch to the "NORM" position.

② Connect an oscilloscope's CH-1 to "V-RF" of the front service terminal and CH-2 to the rear panel's AUDIO MONITOR OUT terminal, and set the front panel's AUDIO MONITOR switch to NORM, AUD-1/L.

③ Connect the oscilloscope's external input terminal with the "D-PULSE" of the front service terminal for external synchronization.

(2) Play back the alignment tape MBPE-X. (Push the PLAY button.)

(3) Set the TRACKING VR to the center position.

(4) Adjust the taper nut ④ so that non-recording portions of AUDIO and FM signals match in the field (±1field) with maximum FM output.

(5) Play back the alignment tape MHPE. (Push the PLAY button.)

(6) Confirm that FM level is maximum as the TRACKING VR is set to the center click position.
If it is not maximum, fine adjust the taper nut ④.

- **For BR-S522**

Note: The following is for X-value adjustment and tracking preset adjustment.

(1) **Preparation**

① Set for the "Adjustment mode 04" (Refer to 1.8 Adjustment Mode, page 1-27).

② Connect an oscilloscope's CH-1 to "V-RF" of the front service terminal and CH-2 to the rear panel's AUDIO MONITOR OUT terminal, and set the front panel's AUDIO MONITOR switch to NORM, AUD-1/L.

③ Connect the oscilloscope's external input terminal with the "D-PULSE" of the front service terminal for external synchronization.

(2) Play back the alignment tape MBPE-X.

(3) Adjust the taper nut ④ so that non-recording portions of AUDIO and FM signals match in the field (±1 field) with maximum FM output.

(4) Cancel the adjustment mode and set the TRACKING VR to the center position.

(5) Play back the alignment tape MBPE-X.

(6) Adjust R146 on 3 0 D/C SERVO board so that non-recording portions of AUDIO and FM signals match in the field (±1 field) with maximum FM output.

2.7 ADJUSTMENT OF TAPE TRANSPORT SYSTEM

No.	Item	Adjustment and Check
	In general, the tape transport system has no need of adjustment since it has precisely been adjusted before shipment. *Check and adjustment are required only after long time use and parts replacement of the tape transport system.*	
1	**Check of tape transport system**	• **Required implements: Thin tape (SE-240, SE-C30)** (1) With a thin tape loaded in, check the following things at the beginning and the end of the tape. (2) Repeat loading and unloading operations to confirm that the tape is neither damaged nor wrinkled at the guide pole, guide roller and guide arm roller. (3) Repeat the same check in the play mode, FWD mode and REV mode respectively.
2	**Supply guide roller height adjustment**	• **Required implements:** ▪ Height gauge (PGJ04032) ▪ Hex. driver (PGJ04034) ▪ Hex. key (1.27 mm) ▪ Thin tape (SE-240) (1) With the height gauge set on the main deck, check the height of the upper surface of the lower flange under the supply guide roller. (2) If it needs adjustment, loosen a setscrew underneath the guide roller and adjust the height of the guide roller with a hex. driver. (3) With a thin tape loaded in, fine adjust the guide roller height in the Play mode so that the tape smoothly runs on the lower flange of the guide roller. (4) Confirm no damage on tape in the REV mode. If the tape is damaged, slightly decrease the guide roller height within one turn adjustment of the hex. driver. (5) Tighten the setscrew. (6) Check smooth tape transport again.

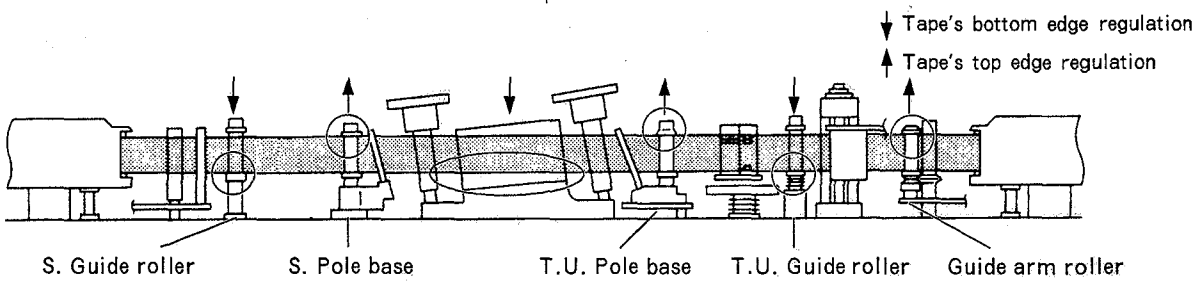


Fig. 2-7-1

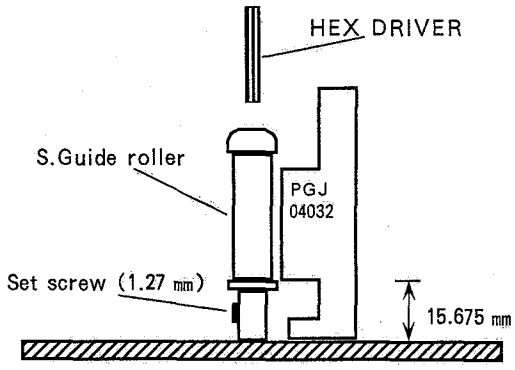
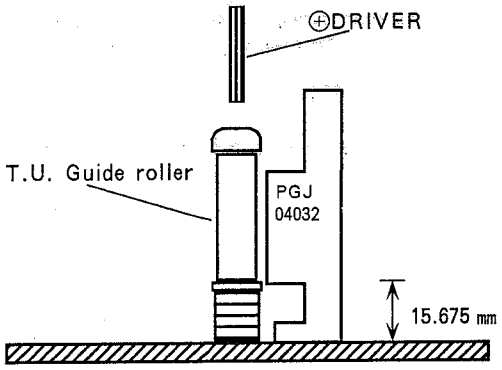
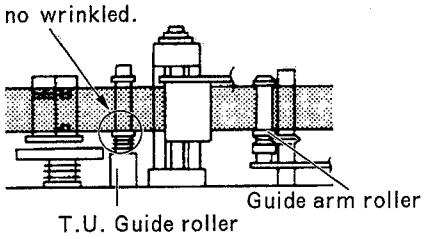
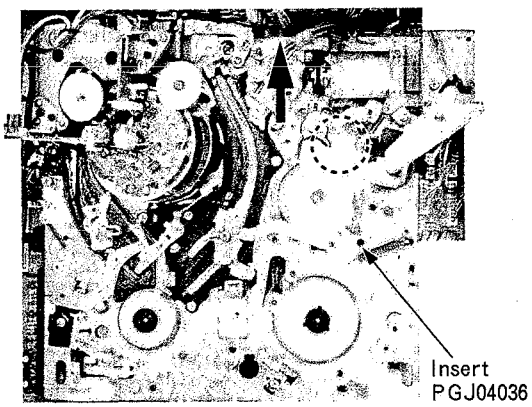
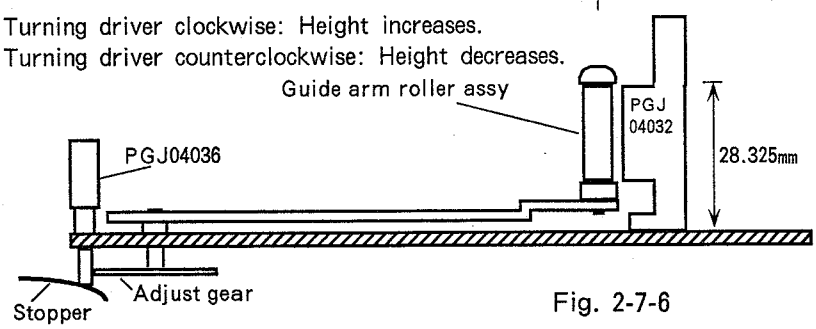
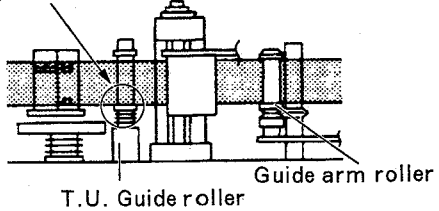


Fig. 2-7-2

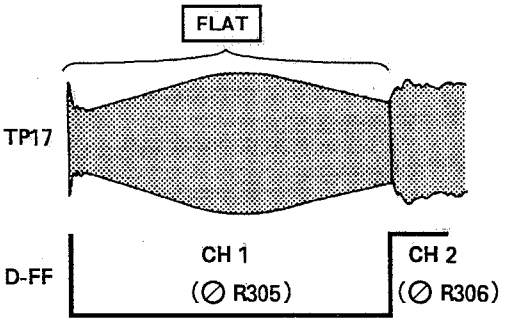
No.	Item	Adjustment and Check
3	**Take-up guide roller height adjustment**  Fig. 2-7-3 Adjust the guide roller height so that the tape is no wrinkled.  Fig. 2-7-4	• **Required implements:** ▪ Height gauge (PGJ04032) ▪ Thin tape (SE-240) (1) With the height gauge set on the main deck, check the height of the upper surface of the lower flange of the guide roller. (2) If it needs adjustment, turn the screw on the top of the guide roller to adjust the guide roller height. (3) Load the VTR with a thin tape and change the operation mode in cycles of PLAY - SEARCH FWD - SEARCH REV - PLAY repeatedly while fine adjusting the guide roller height so that the tape is not wrinkled at the lower flange of the guide roller. For this adjustment, make sure not to turn the screw more than 3/4 turn from the setting that was adjusted in the above step (2). (4) Again check the tape transport as a whole.
4	**Guide arm roller height adjustment**  Fig. 2-7-5 Turning driver clockwise: Height increases. Turning driver counterclockwise: Height decreases.  Fig. 2-7-6 Adjust the guide arm roller height so that the tape is no wrinkled.  Fig. 2-7-7	• **Required implements:** ▪ Height gauge (PGJ04032) ▪ Guide arm height adjusting driver (PGJ04036) ▪ Thin tape (SE-C30) (1) Turn off the power. (2) Set a height gauge on the main deck's cut surface in the right side of the capstan motor as shown in the Fig. 2-7-5. (3) Turn the loading motor counterclockwise by hand while checking the height of the lower face of the upper flange of the guide arm roller. (4) If the height is out of the specifications, insert the guide arm height adjusting driver into the hole of the main deck and adjust the height. (5) With a thin C. cassette tape loaded in, check that the tape smoothly runs on the upper surface of the lower flange of the take-up guide roller both in the FWD and REV modes. (Tape travel height is not changed when the mode is shifted between FWD and REV.) (6) If there is damage or wrinkle observed in the tape, repeat the above steps (1) and (5) for smooth tape transport.

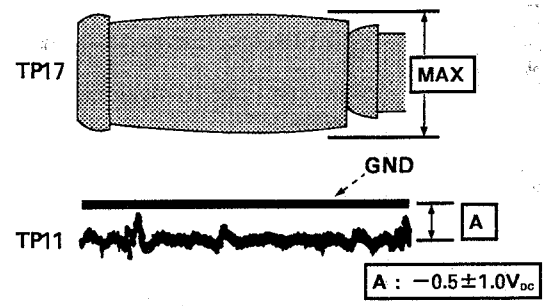
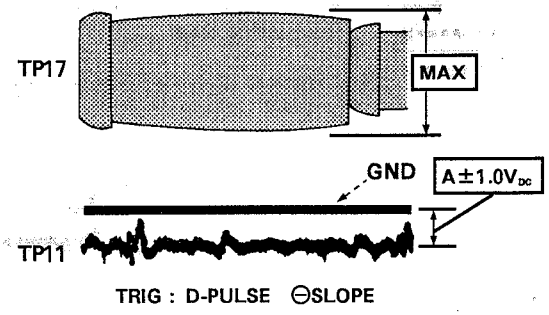
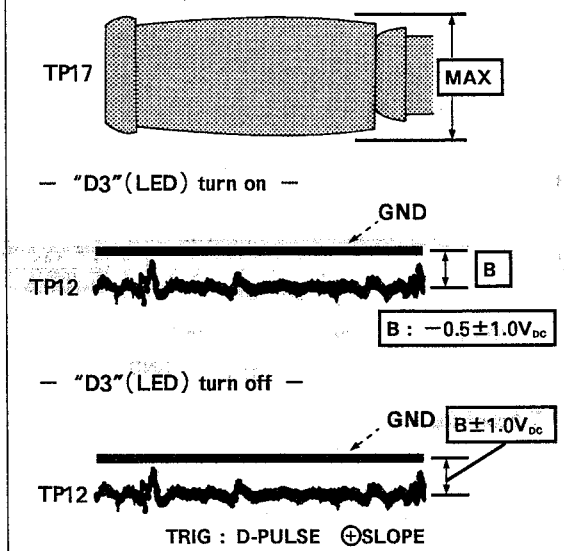
2. 8 VARIABLE TRACKING CIRCUIT

<table>
<tr><th>No.</th><th>Item</th><th>Check point</th><th>Adjustment</th><th>Signal</th><th>Mode</th><th>Check and Adjustment</th></tr>
<tr><td rowspan="2">1</td><td rowspan="2">Sensor output voltage adjust.</td><td>TP23:14G (CH1)
TP24:13G (CH2)</td><td>R301:14G (CH1)
R302:14G (CH2)</td><td>—</td><td>No cassette
8 1
ON
OFF
VT board S1</td><td>Note:
• This item is a rough adjustment for prevent the VT head from damage. Make sure to start with this prior to loading the deck with any kind of cassette tape.
(1) Adjust R301(CH1) so that level at TP23(CH1) is 0V_{DC}.
Do the same with R302(CH2) and TP24(CH2).</td></tr>
<tr><td>TP11:13G (CH1)
TP12:12G (CH2)</td><td>R301:14G (CH1)
R302:14G (CH2)</td><td>—</td><td>No cassette
8 1
ON
OFF
VT board S1</td><td>(2) Adjust R301(CH1) so that level at TP11(CH1) is 0V_{DC}.
Do the same with R302(CH2) and TP12(CH2).
(3) After the above adjustment, set back SW1-1 to "OFF" position.</td></tr>
<tr><td>2</td><td>VT head gain rough adjust.</td><td>TP17:9G</td><td>R305:12G (CH1)
R306:11G (CH2)</td><td>MHPE</td><td>VAR (−0.9×)
8 1
ON
OFF
VT board S1</td><td>(1) Play back the alignment tape MHPE at −0.9× tape speed.
(2) Roughly adjust R305(CH1) and R306(CH2) so that FM waveform at TP17 becomes flat.</td></tr>
</table>

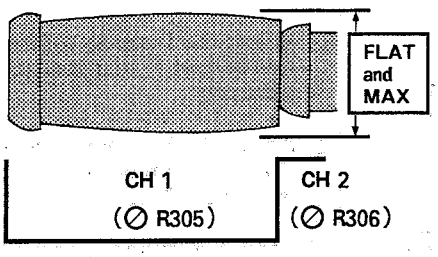
TP23 (CH1) / TP24 (CH2) : 0.0 ± 0.1 V_{DC}

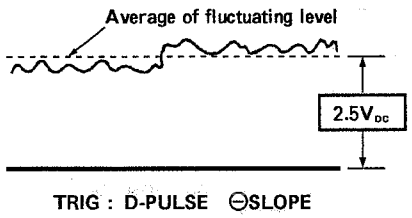
TP11 (CH1) / TP12 (CH2) : 0.0 ± 0.1 V_{DC}

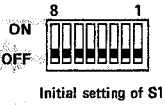


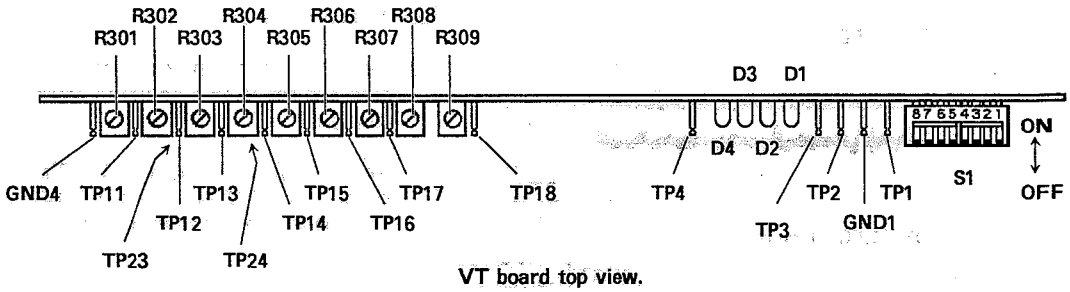
No.	Item	Check point	Adjustment	Signal	Mode	Check and Adjustment
3	VT head bias and offset adjust.	TP11:13G (CH1) TP17:9G	R303:13G (CH1) R307:11G (CH1)	MHPE	PLAY 8 1 ON OFF VT board S1	(1) Set the PB HEAD switch on the subpanel to "VT" position. (2) Connect the dual-trace oscilloscope with TP11 and TP17. ***Note: Ground the oscilloscope to the TP GND on the VT board.*** (3) Adjust the Tracking control near the center position and set it to a position where the LED "D3" comes on. (4) Adjust R303 to maximize level (center part) of FM waveform output at TP17 as TP11's DC level is $-0.5\pm1.0V_{DC}$. (5) After confirming $-0.5\pm1.0V_{DC}$ as level at TP11, measure level at TP11 and take note of the measurement value as "A".
		— "D3"(LED) turn on —  				
		— "D3"(LED) turn off —  TRIG : D-PULSE ⊖SLOPE				(6) Adjust the Tracking control near the center position and set it to a position where the LED "D3" comes off. (7) Adjust R307 to maximize FM waveform observed at TP17 as TP11's level is within $\pm1.0V_{DC}$ of the level "A" measured in the step (5).
		TP12:12G (CH2) TP17:9G	R304:12G (CH2) R308:10G (CH2)	MHPE	PLAY 8 1 ON OFF VT board S1	(8) Set the oscilloscope to the plus (+) slope trigger mode. (9) Adjust the Tracking control near the center position and set it to a position where the LED "D3" comes on. (10) Confirm that TP12's V_{DC} is in a range of $-0.5\pm1.0V_{DC}$ while adjusting R304 so that FM waveform at TP17 is maximized in the center portion. (11) Measure V_{DC} at TP12 and take note of it as "B". (12) Adjust the Tracking control near the center position and set it to a position where the LED "D3" comes off. (13) Adjust R308 to maximize TP17's FM waveform as level at TP12 is within $\pm1.0V_{DC}$ of the level "B" measured in the above step (11).
		 TRIG : D-PULSE ⊕SLOPE				

No.	Item	Check point	Adjustment	Signal	Mode	Check and Adjustment
4	**VT head gain adjust.**	TP17:9G	R305:12G (CH1) R306:11G (CH2)	MHPE	VAR (−1.0×) 8 1 ON OFF VT board S1	(1) Play back the alignment tape MHPE at the VAR −1.0× tape speed. (2) Set the oscilloscope to the ⊖ slope trigger mode and trigger it with signal from the D-PULSE terminal. (3) Adjust R305 to maximize and flatten the FM waveform. (4) Set the oscilloscope to trigger on the ⊕ slope. (5) Adjust R306 to maximize and flatten the FM waveform.
5	**VT RF level adjust.**	TP18:8G	R309:9G	MHPE	VAR (−0.9×) 8 1 ON OFF VT board S1	(1) Play back the alignment tape MHPE at the VAR −0.9× tape speed. (2) Adjust R309 to obtain 2.5V_{DC} as an average of fluctuating level. (3) After the above adjustment, return all S1 to the original setting position (S1-1 to S1-8 to "OFF").









VT board top view.

2.9 VT HEAD FM WAVEFORM CHECK

No.	Item	Adjustment and Check
1	**VT head FM waveform check**	***Note: Prior to use of any alignment tape, confirm normal operation of the tape transport system with a general recording tape.***

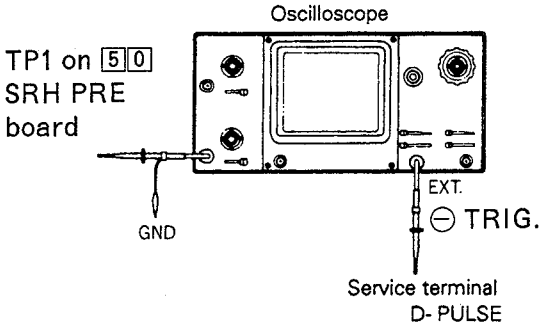


Fig. 2-9-1

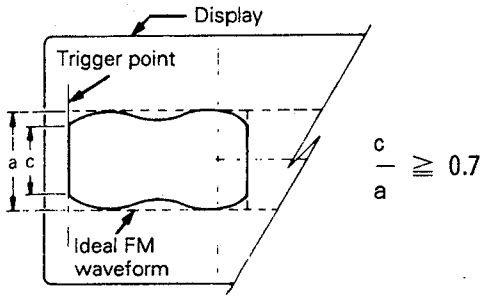


Fig. 2-9-2

(1) For observing FM waveform, connect an oscilloscope's probe to TP1 on 5 0 SRH PRE board while connect the other probe to the "D-PULSE" on front service terminal for external sync. signal input.

(2) With the MHPE alignment tape being played back at +0.03× and −0.03× tape speed (VT mode). Measure respective levels shown in Fig. 2-9-2 and confirm that the ratio of the level (c) to the maximum level (a) meets the specifications.

(3) When the maximum level (a) is set for 4 graduations of the oscilloscope scale, the level (c) should be for 2.8 graduations or more.

Note: To set the maximum level (a) for 4 graduations, adjust the oscilloscope's gain control with the tracking control set to the maximum position.

SECTION 3
ELECTRICAL ADJUSTMENT

3.1 PRECAUTIONS

- Before proceeding to any electrical adjustment, it is the firstprerequisite to confirm that the objective item is out of order or of breakdown.
  Moreover, for parts and items that need correct mechanical adjustment prior to electrical adjustment, begin by confirming that they are exactly mechanically adjusted.
- Make sure to start electrical adjustment 5 or more minutes after the power is turned on.
- For adjustments of the REEL SERVO circuit and the VT circuit, refer to "2.5 REEL SERVO CIRCUIT" and "2.8 VT CIRCUIT" of the section 2 of this manual respectively.

3.1.1. Required tools and test instruments

Besides the special implements shown in Fig. 3-1-1, the following test instruments are necessary for electrical adjustment.

- Frequency counter (10MHz or more and 100mV or less in the sensitivity)
- Video signal generator (TG-7/2, Model 1411, or equivalent)
- Waveform monitor (1485R or equivalent)
- Digital voltmeter (available for 1mV_{DC} or under)
- Sweep signal generator (100kHz to 10MHz, or equivalent)
- Oscilloscope (dual-trace type, for more than 50MHz)
- TV monitor
- Vectorscope (521A or equivalent)
- Audio tester

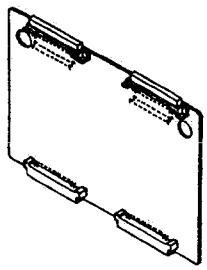
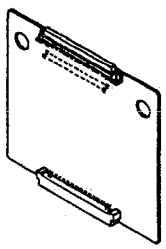
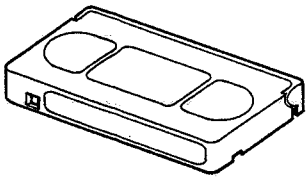
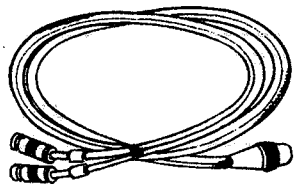
<table>
<tr><td colspan="2">Extension boards</td></tr>
<tr><td>1. PGJ05043
for R/P Y, SUB DOC, R/P C, R/R C-2, TBC-1 boards.
  </td><td>2. PGJ05044
for OUTPUT, Y COMB, R/P ADJ, AUD-2, AUD-3, Y-688 OUT, AVM/ONSC, TBC-2, TBC-3, FUSE boards.
  </td></tr>
<tr><td>Alignment tapes</td><td>7-pin output conversion cable</td></tr>
<tr><td>(See page 3-2.)
  </td><td>PGJ05018
 
7-pin(male)-BNC×2</td></tr>
</table>

Fig. 3-1-1 Required special implements

3.1.2 Specification of alignment tapes

•MHPE

Video signal	Audio signal	Application	Remark
VHS SP mode Stairstep	7kHz	•For check adjustment of interchangeability •For adjustment of PB swiching point	MH-2 stairstep signal substitutable.

•MHVE-2

Video signal	Audio signal	Application	Remark
VHS SP mode Color bar	–	•For check and adjustment of video PB circuit	MH-2 color bar signal is substitutable.

•MBAE

Video signal	Audio signal	Application	Remark
CTL signal only	1kHz(0dB)	•For check and adjustment of audio PB circuit	MH-2 1kHz signal is substitutable.

•MH-8

No.	PB time	Video signal	Audio signal	Application
1	2 minutes	Color sweep	400Hz(−10dB)	•Check and adjustment of video signal's frequency response in PB circuit. •Check and adjustment of audio signal's frequency response in PB circuit.
2	2 minutes	Color sweep	100Hz(−10dB)	
3	2 minutes	Color sweep	8kHz(−10dB)	
4	4 minutes	Color sweep	–	

•MH-F8

No.	PB time	Video signal	Audio signal	Application
1	5 minutes	–	Carrier only	Check and adjustment of interchangeability of mechanism.
2	5 minutes	Stairstep	Carrier only	Check and adjustment of interchangeability of mechanism.
3	5 minutes	–	1kHz (±50kHz DEV)	Check and adjustment of FM audio PB circuit.

•MHVE-2H

Video signal	Audio signal	Application	Remark
VHS SP mode Color bar	–	•For check and adjustment of video PB circuit	MH-2 color bar signal is substitutable.

•MBVE-14H

Video signal	Audio signal	Application	Remark
S-VHS SP mode Sweep	–	• For AUTO EQ adjustment	–

•MBVE-3H

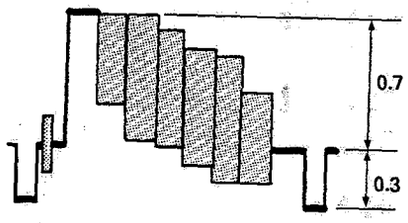
Video signal	Audio signal	Application	Remark
VHS SP mode Video sweep	–	•For check and adjustment of video frequency response	Only MHVE-3H part name changed.

•MBAFE-2

Video signal	Audio signal	Application	Remark
Carrier only (4.3MHz)	1kHz (±50kHz DEV)	Check and adjustment of FM audio PB circuit.	–

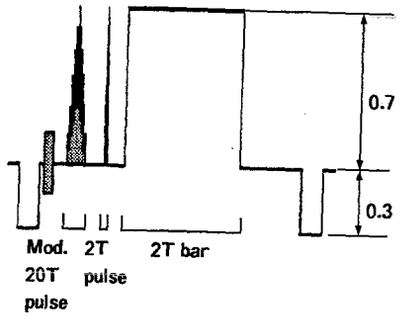
3.1.3 Signals required for video system adjustment

1. **EBU 75% color bar signal.**



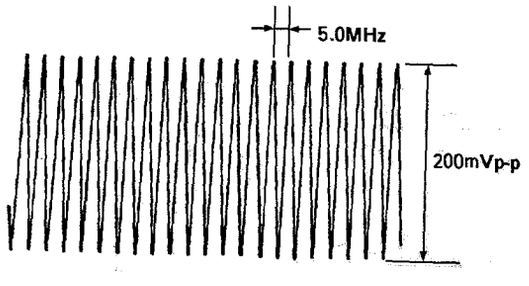
This signal is used for adjustments of tracking meter and color output level.
Color levels appearing in this section are those with this color bar signal.
If any other signal having 100 % color level is used for the following adjustments, it causes to bring on results differ ent from the value described in this manual.

(2) **Pulse & bar signal.**



To be used for Y/C timmming.

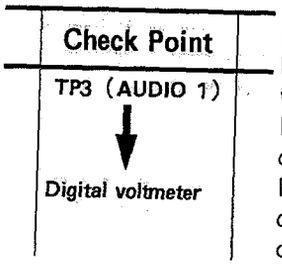
(3) **Sine wave** signal.



To be used for S-VHS mode detection.

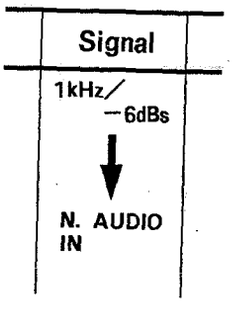
3.1.4 Explanation of main columns in check and adjustment table

1. **"Check Point" column**



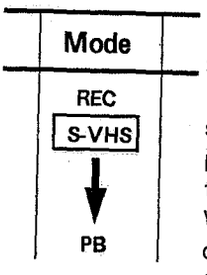
The Check Point column indicates measuring instrument(s) to be used besides test points to be connected with it.
However, oscilloscope is not indicated except for audio adjustment.
In case of the example on the left, connect a digital voltmeter to TP3 on the AUDIO-1 board.
If no measuring instrument is specified for check and adjustment of the audio circuit, use an audio tester.
This column indicates not only test points on P.C. boards but also terminals on the rear panel. In such a case, connect a measuring instrument directly to the specified terminal.

2. **"Signal" column**



The Signal column indicates signals to input as well as terminals to input the signals.
if no input terminal is specified, input signals to the LINE IN terminal.
In case of the example on the left, input 1 kHz/−6 dBs signal to the NORMAL AUDIO input terminal.
In case of adjustment with an alignment tape being played back, its part number and the segment to be played back are indicated in parentheses.

3. **"Mode" column**



This column indicates operation mode of the set for adjustment.
Since this set has two recording modes of "S-VHS" and "VHS", set the REC MODE switch on the sub panel (inside the front panel) to the specified position if one of them is indicated in this column.
When "VHS" mode is specified, use a VHS cassette tape, while use an S-VHS cassette tape for "S-VHS" mode. if neither mode is specified,the mode does not matter.

Note:

- ***Since this set has no VIDEO INPUT terminal, use a tape on which the pulse & bar signal is recorded by the BR-S822E or BR-S622E for the following adjustments.***
- ***Make sure to use double-coated tape for measurement. (If not, measurement value may be incorrect.)***

3.1.5 Main boards location

In the following sections, P.C. boards on which check points, adjustment parts and DIP switches are provided are indicated by board numbers respectively. The fig.3-1-2 shows only P.C. boards for which check and adjustment may possibly be required.

Note:

Before proceeding to the following adjustments, set the switches on the front and rear panels as shown below unless otherwise indicated. Except the switches shown below, set all DIP switches and the MEMORY switches to respective initial positions as they were set at shipment.

(For initial setting of DIP switches, refer to 1.3.1 of the section 1.)

For resetting memory switches, refer to 1.4.1 of the section 1.

— Setting of DIP switches (before adjustment) —

S1 (R/P Y) : "OFF" (BR-S525E), "ON" (BR-S522E)
S1 (OUTPUT) : "MANU"
S1 (BURST SW) : "OFF"
S502 (HEAD SW) : "HSW"
S501 (HEAD SW) : -1 "OFF", -2 "OFF", -3 "OFF", -4 "ON"

— Setting of MEMORY switches (before adjustment) —

SW No.603 (DNR AT NORM.PB) : "OFF"
SW No.600 (TBC DISABLE) : "DISABLE"

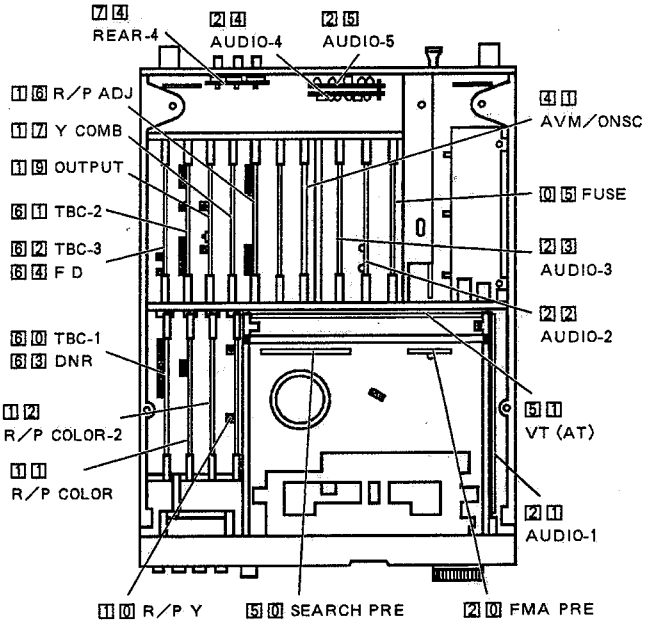
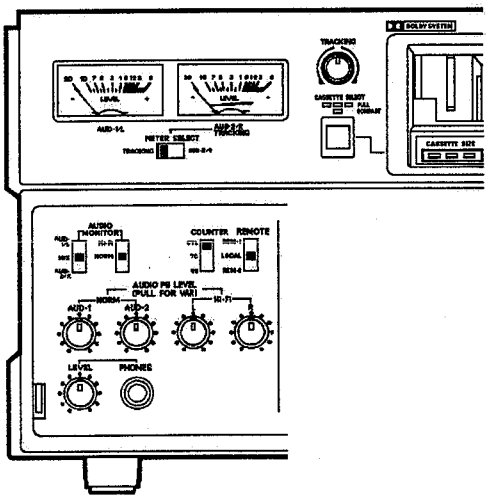
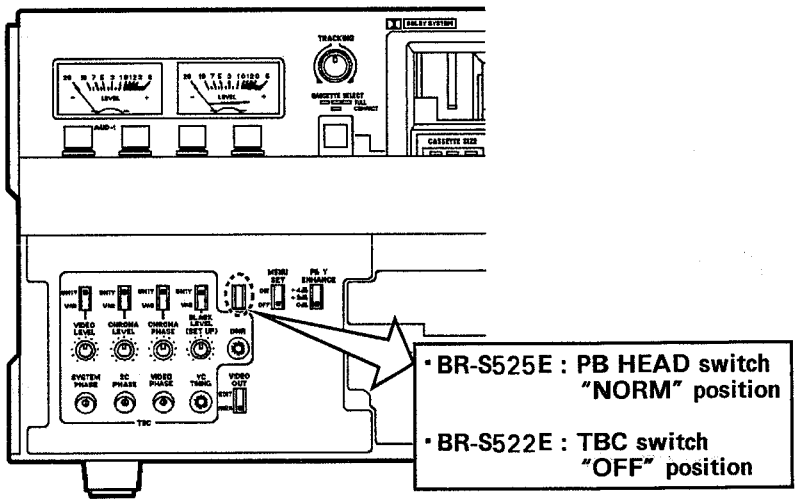


Fig. 3-1-2 Location of main P.C. boards.

— FRONT PANEL —



— FRONT SUB PANEL —



— REAR PANEL —

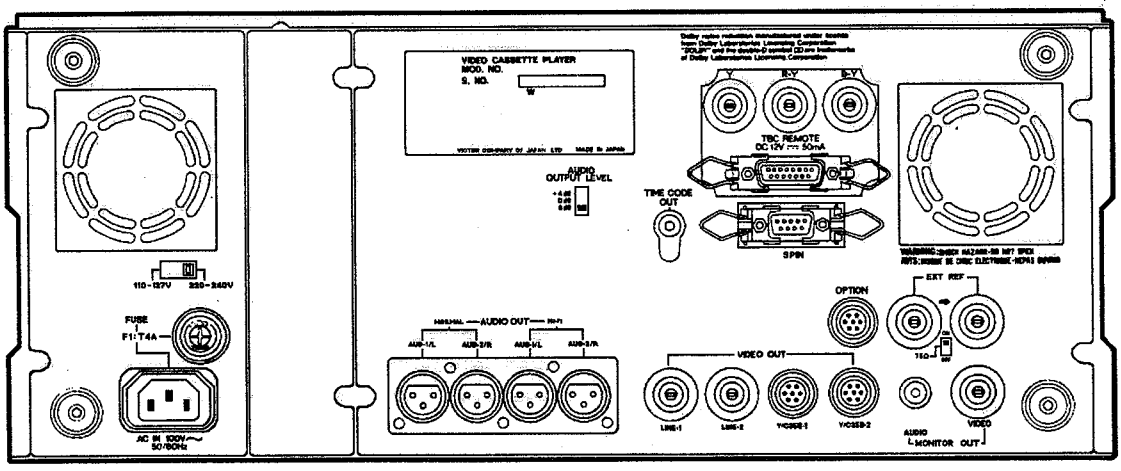
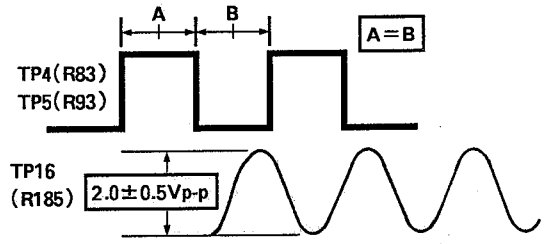
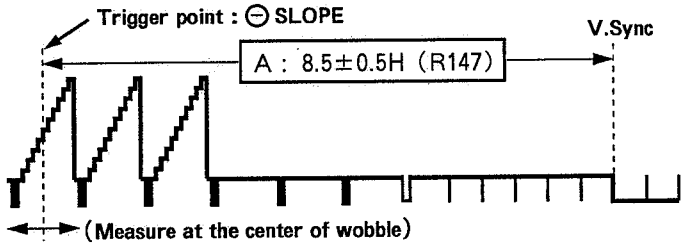
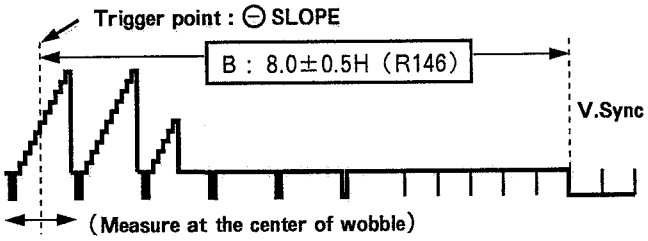
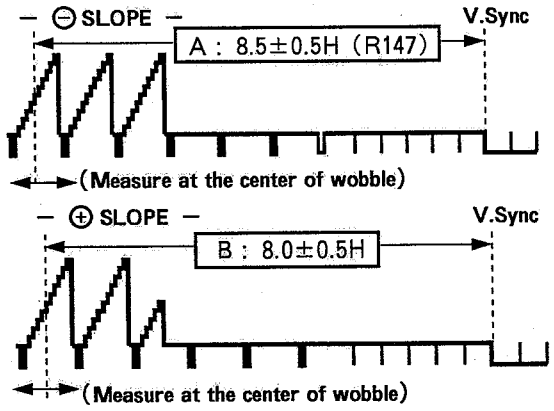


Fig. 3-1-3 Setting of front panel and rear panel switches. (before adjustment)

3. 2 D/C SERVO CIRCUIT

***Note** • Unless otherwise mentioned, check points and adjustments are on the D/C SERVO bord.*

<table>
<tr><th>No.</th><th>Item</th><th>Check point</th><th>Adjustment</th><th>Signal</th><th>Mode</th><th>Check and Adjustment</th></tr>
<tr><td>1</td><td>Capstan FG duty factor & level</td><td>TP4
TP5
TP16</td><td>R83
R93
R185</td><td>MHVE-2</td><td>PB</td><td>1) Adjust R83 so that the duty ratio of the capstan FG pulse at TP4 becomes fifty-fifty. (A=B in the figure).
2) Adjust R93 so that the duty ratio of the capstan FG pulse at TP5 becomes fifty-fifty. (A=B in the figure)
3) Adjust R185 to obtain 2.0±0.5Vp-p as the signal level at TP16.
4) Confirm that the duty ratio at TP4 is fifty-fifty still.</td></tr>
<tr><td colspan="5"> 
</td><td></td></tr>
<tr><td>2</td><td>BR-S525E Switching point</td><td>VIDEO OUT</td><td>R147</td><td>MHPE</td><td>PB (NORM)</td><td>Note:
• Confirm that the memory switch No.100 (SWITCHING POINT) is set to "PB4.5H".
• Set the TRACKING VR to the center position and confilm that the FM waveform is maximized. When the FM waveform is not maximum, perform the X-value adjustment described in the Item No.2-6-5 (page.2-29).
1) After turning off the power, remove the TBC-1 board not to activate the TBC circuit.
2) Set the PB HEAD switch on the sub-panel to "NORM" position.
3) Play back the alignment tape MHPE.
Note: Set the TRACKING VR to the optimal position.
4) Connect the oscilloscope to the D-PULSE terminal for external triggering on ⊖slope and adjust R147 so that the period of the portion "A" shown in the left figure becomes 8.5H.</td></tr>
<tr><td colspan="5">— "NORM" head —
 
</td><td></td></tr>
<tr><td></td><td></td><td></td><td>R146</td><td>MHPE</td><td>PB (VT)</td><td>5) Set the PB HEAD switch to "VT" position.
6) Set the switch SW1-6 on the AT board to "ON" position and play back the alignment tape MHPE.
Note: Set the TRACKING VR to the center click position.
7) Connect the oscilloscope to the D-PULSE terminal for external triggering on ⊖slope and adjust R146 so that the period of the portion "B" shown in the left figure becomes 8.0H.
8) As the power is turned off, re-install the TBC-1 board.</td></tr>
<tr><td colspan="5">— "VT" head —
 
</td><td></td></tr>
<tr><td>BR-S522E Switching point</td><td>VIDEO OUT</td><td>R147</td><td>MHPE</td><td>PB</td><td>1) Confirm that the TBC switch is "OFF".
2) Play back the alignment tape MHPE.
Note: Set the TRACKING VR to the center click position.
3) With an oscilloscope which is set for ⊖slope and externally triggered with TP9's signal, adjust R147 so that "A" shown in the figure becomes 8.5H.
With the oscilloscope set for ⊕slope, confirm that
4) "B" shown in the figure is 8.0±0.5H.</td></tr>
<tr><td colspan="5">— ⊖ SLOPE —
 
</td><td></td></tr>
</table>

3. 3 AUDIO CIRCUIT

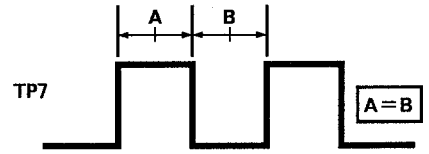
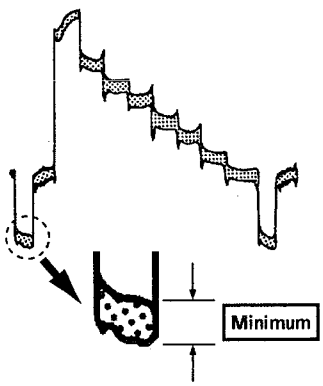
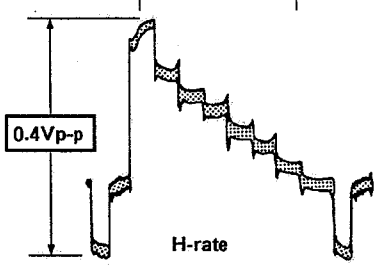
Note • *All adjustment values are balanced values with 600Ω resistance.*
• *Turn off the memory switch No.201 (DOLBY NR) unless otherwise indicated.*
• *Set the METER SELECT switch on the front panel to "AUD-2/R" position.*

No.	Item	Check point	Adjustment	Signal	Mode	Check and Adjustment
1	**Hi-Fi audio carrier frequency**	TP3 (AUDIO-3) ↓ Frequency counter	R63 (AUDIO-3)	—	No cassette	1) Adjust R63(Lch) so that frequency at TP3 becomes 1.400±0.002MHz.
		Lch carrier frequency : 1.400±0.002MHz				
		TP4 (AUDIO-3) ↓ Frequency counter	R64 (AUDIO-3)	—	No cassette	1) Adjust R64(Rch) so that frequency at TP4 becomes 1.800±0.002MHz.
		Rch carrier frequency : 1.800±0.002MHz				
2	**Hi-Fi audio PB level**	HiFi AUDIO OUT (600Ω terminator)	R3 (Lch) R4 (Rch) (AUDIO-3)	MBAFE-2 or MH-F8	PB	1) Set the AUDIO PB LEVEL VR to the preset mode (knob is depressed). 2) Play back the 1kHz segment of the alignment tape MBAFE-2 or MH-F8 while adjusting R3(Lch) and R4(Rch) to obtain −6.0dBs as the playback level of the 1kHz signal respectively.
		Hi-Fi audio PB level : −6.0dBs				
3	**HiFi AUDIO LEVEL METER**	HiFi AUDIO OUT (600Ω terminator)	R87(Lch) R88(Rch) (AUDIO-2)	MBAFE-2 or MH-F8	PB	1) Set the AUDIO MONITOR switch to the "Hi-Fi" position. 2) Reading the AUDIO LEVEL METER head-on, adjust R87(Lch) and R88(Rch) so that the meter reads 0.0dB respectively.
		AUDIO LEVEL METER : 0.0dBs				
4	**Hi-Fi audio FM output level**	A-RF terminal (Front panel) ↓ Oscilloscope	R11 (FMA PRE/AMP)	MBAFE-2 or MH-F8	PB	1) Adjust R11 so that FM output level at the A-RF terminal inside the front panel becomes 100mVp-p. ***Note:*** ***If there is channel difference, adjust at the smaller level.***
		A-RF terminal : 100mVp-p				
5	**Normal Audio playback level**	N. AUDIO OUT (600Ω terminator)	R25(Lch) R26(Rch) (AUDIO-1)	MBAE	PB	1) Confirm that the MEMORY switch No. 201 (DOLBY NR) is set to "OFF". 2) Set the AUDIO PB LEVEL VR to the preset mode (knob is depressed). 3) Play back the alignment tape MBAE. 4) Adjust R25(Lch) and R26(Rch) to obtain −9.0dBs as the output level.
		Playback level : −9.0dBs				
		Note Confirm that the meter pointer does not overshake in the Search FWD/ REV mode.				
6	**Normal Audio playback frequency response**	N. AUDIO OUT (600Ω terminator)	R125(Lch) R126(Rch) (AUDIO-1)	MBAFE-2 or MH-F8	PB	1) Make sure of the MEMORY switch No.201 (DOLBY NR) being set to "OFF". 2) With the alignment tape MH-F8, confirm that playback level of the 100Hz signal is −0.5±2.0dB as against playback level of the 400Hz signal. 3) With the same tape used, adjust R125(Lch) and R126(Rch) so that playback level of the 8kHz signal is 0.0dB compared with that of the 400Hz signal.
		- Rated frequency response -				

400Hz	100Hz	8kHz
0dB (Reference)	−0.5±2.0dB	0.0dB

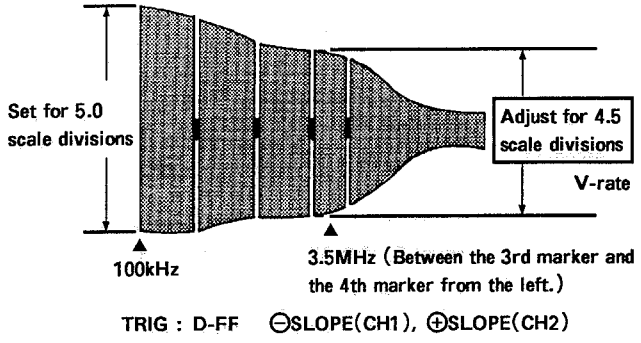
3. 4 VIDEO CIRCUIT

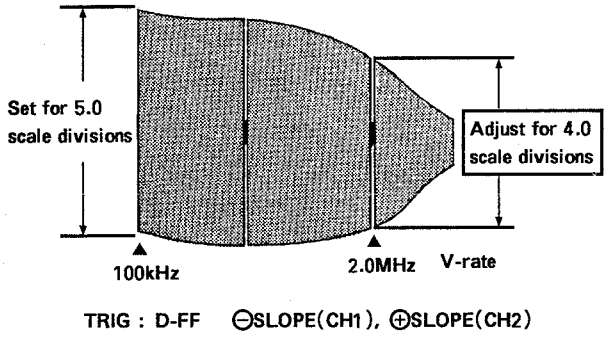
***Note** • After turning off the power, remove the TBC-1 board not to activate the TBC circuit.*

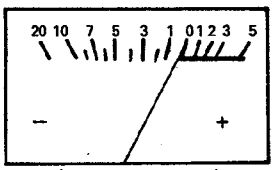
No.	Item	Check point	Adjustment	Signal	Mode	Check and Adjustment
1	**VCXO**	TP1: 4fsc (Y COMB) ↓ Digital voltmater	R1: 4fsc (Y COMB)	— TP1 : 2.0V_{DC}	No cassette	1) Adjust R1 so that DC voltage (V_{DC}) at TP1 of the 4fsc board on the Y COMB board is 2.0V_{DC}.
2	**S-VHS mode detection (PB mode)**	TP7: 1A (R/P ADJ) 	R17: 1A (R/P ADJ)	Sine wave (5.0MHz) ↓ TP6: 2A (R/P ADJ)	No cassette	1) Make shortcircuits between TP5(:1A) and TP GND4(:1A) as well as TP8(:2A) and TP9(:1A) on the R/P ADJUST BOARD. 2) Supply 5.0MHz/200mVp-p sine wave to TP6. ***Note: At that time,do not use TP GND6.*** 3) Adjust R17 so that the duty factor at TP7 is fifty-fifty (A=B in the figure).
3	**Modulation balance**	TP8: 12G (R/P Y) 	R14: 1F R15: 2G (R/P Y)	MHVE-2H	PB	1) Adjust R14 and R15 alternately to minimize carrier leak in the sync tip portion of the waveform at TP8.
4	**PB sub-demphasis**	TP1: 4G (R/P Y) 	R11: 9G (R/P Y)	MHVE-2H	PB	1) Adjust R11 to obtain 0.4 Vp-p as the level at TP1.

Note • After turning off the power, remove the TBC-1 board not to activate the TBC circuit.

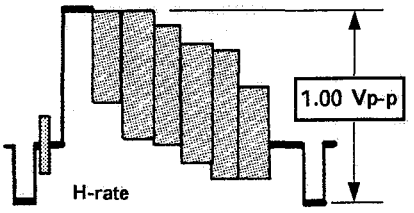
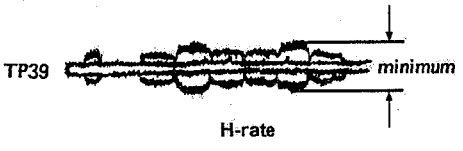
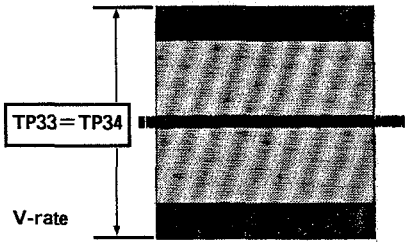
No.	Item	Check point	Adjustment	Signal	Mode	Check and Adjustment
5	**RF equalizer**	Y/C 443 •Y OUT (75Ω terminator)	R13: 5E(CH1) R14: 5E(CH2) (R/P ADJ)	MBVE-3H	PB	1) Confirm that the VIDEO OUT switch is set to "EDIT" and the PB Y ENHANCE switch is set to "0dB". 2) With the alignment tape MBVE-3H being played back, adjust the TRACKING VR to the best tracking position. 3) Adjust the oscilloscope's GAIN control to set the 100kHz signal level for 5.0scale divisions on the scope. 4) Adjust R13 and R14 so that the 3.5MHz signal level becomes for 4.5scale divisions (−1.0dB) respectively.
			R15: 2E(CH1) R16: 2E(CH2) (R/P ADJ)	MHVE-3 or MH-8	PB	5) In the same manner as the above procedure, play back the MHVE-3 tape and set the 100kHz signal level for 5.0scale divisions on the oscilloscope. 6) Adjust R15 and R16 so that the 2.0MHz signal level is for 4.0scale divisions (−2.0dB) respectively.
6	**TRACKING METER**	TRACKING METER	R13: 2B (R/P Y)	Color bar	REC S-VHS ↓ PB	***Note: Since this set has no VIDEO INPUT terminal, use a tape on which color bar signal is recorded by the BR-S822E or BR-S622E for the following adjustment.*** 1) Confirm that the METER SELECT switch is set to "TRACKING" position. 2) Confirm that the TRACKING VR is set to the center click position. 3) Play back color bar signal that is recorded in the S-VHS mode. 4) Adjust R13 so that the meter indicator points at "0" as viewed from the right front.



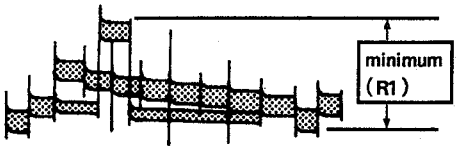
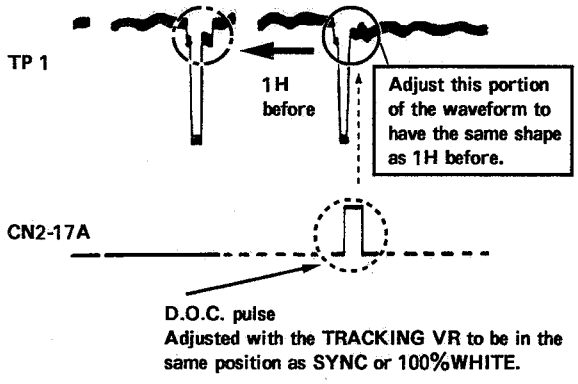
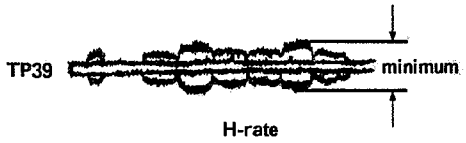
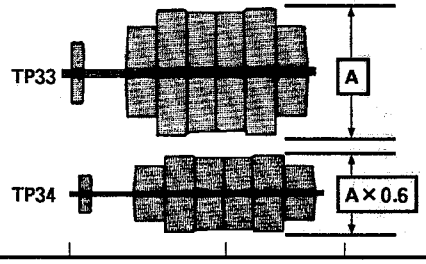




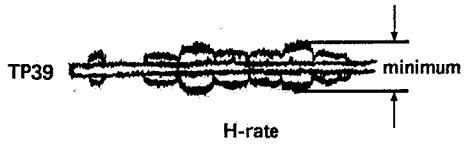
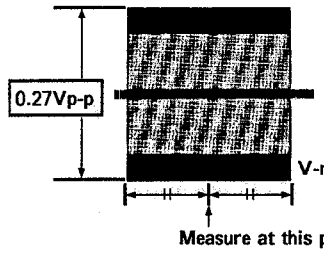
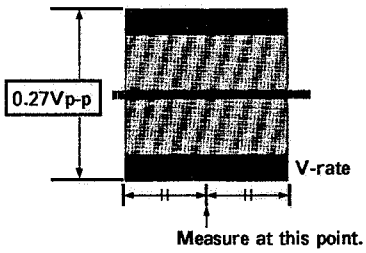
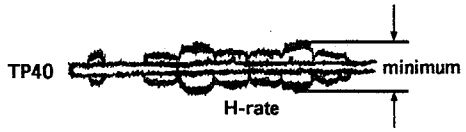
Note • After turning off the power, remove the TBC-1 board not to activate the TBC circuit.

No.	Item	Check point	Adjustment	Signal	Mode	Check and Adjustment
7	**Y output level**	VIDEO OUT (75Ω terminator)	R4: 4I (R/P Y)	MHVE-2H	PB	1) Adjust R4 so that Y level at the VIDEO OUT terminal is 1.00Vp-p.
						
			R12: 10I (R/P Y)	MHVE-2	PB	2) Adjust R12 to obtain 1.00Vp-p as Y level at the VIDEO OUT terminal in the VHS mode as well as the S-VHS mode.
8	**PB VCO**	TP5: 13H (R/P C)	C77: 12G (R/P C)	MHVE-2H	PB	1) With the alignment tape MHVE-2H being played back, adjust the TRACKING VR to the best tracking position. 2) Adjust C77 so that level at TP5 becomes 2.2V_{DC}.
			TP5 : 2.2V_{DC}			
9	**PB subcarrier**	TP6: 12F (R/P C) ↓ Frequency counter	R9: 12F (R/P C)	MHVE-2H	PB	1) With the alignment tape MHVE-2H being played back, adjust the TRACKING VR to the best tracking position. 2) Adjust R9 so that frequency at TP6 becomes 4.433619MHz.
			TP6 : 4.433619MHz±5Hz			
10	**BR-S522E Color DOC**	TP39: 5D (R/P C-2)	R23 : 4D (R/P C-2) L305: 4D (R/P C-2)	MHVE-2H	PB	1) Set the switch SW302 (R/P COLOR-2) to "ADJ". 2) Shortcircuit between TP38(4C) and GND on the R/P COLOR-2 board with a shorting wire. 3) Adjust R23 and L305 to minimize signal level (leakage of color component) at TP39. 4) After the adjustmrent, remove the shorting wire TP38 and GND. 5) Set the switch SW302 to the "NOR" position.
						
		TP33: 4D (R/P C-2) TP34: 4D (R/P C-2)	R22: 4D (R/P C-2)	MHVE-2H	PB	6) Turn on the oscilloscope's 20MHz filter. 7) Adjust R22 to equalize waveform levels at TP33 and TP34.
						

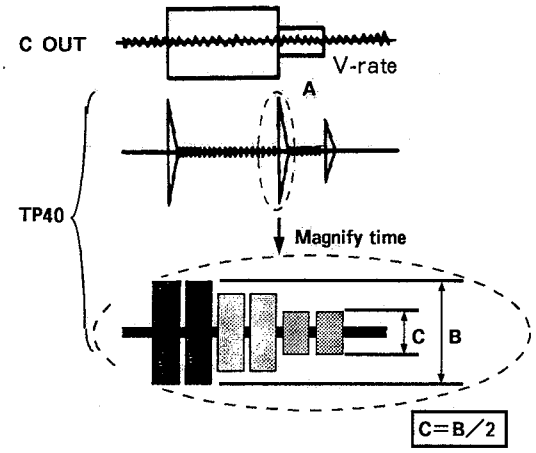
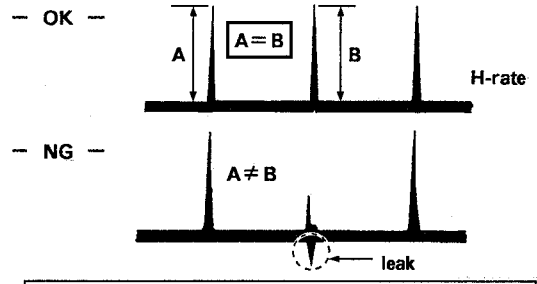
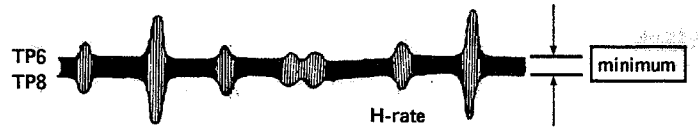
Note •After turning off the power, remove the TBC-1 board not to activate the TBC circuit.

No.	Item	Check point	Adjustment	Signal	Mode	Check and Adjustment
11	**BR-S525E SUB DOC level**	TP1: SUB DOC (R/P Y) TP2: SUB DOC (R/P Y)	R1: SUB DOC (R/P Y)	MHVE-2H	PB	1) Play back the alignment tape MHVE-2H. ***Note: Set the TRACKING VR to the optimal position.*** 2) Connect the oscilloscope's CH1 probe to TP1 while connect the CH2 probe to TP2 and invert it by the oscilloscope. Mix CH1 signal and inverted CH2 signal for observing a waveform. ***Note: Confirm that the oscilloscope's voltage range is the same for CH1 and CH2.*** 3) Adjust R1 to minimize the waveform level (no stepping observed in the waveform).
						
		TP1: 11B (Y COMB) CN2-17A: EXT. (R/P Y)	R3: SUB DOC (R/P Y) R1: SUB DOC (R/P Y)	MHVE-2H	PB	4) Set the switch SW502 on the HEAD SWITCH board to "FF" position. 5) Play back the alignment tape MHVE-2H. ***Note: Set the TRACKING VR to the optimal position.*** 6) Connect the oscilloscope probes to TP1 (Y COMB) and CN2-17A (R/P Y : EXT. board). 7) Adjust the TRACKING VR to equalize the position of DOC pulse of CN2-17A to the sync position of TP1 signal in the oscilloscope screen. 8) Adjust R3 so that a portion of CN2-10A's waveform correspoding to a dropout pulse of CN2-17A has the same shape as just 1H before. 9) Adjust theTRACKING VR so that the DOC pulse is in the same position as the 100%WHITE in the oscilloscope screen. 10)Adjust R1 to equalize 100%WHITE level to that at the time of 1H before.
						
	BR-S525E Color DOC level	TP39: 5D (R/P C-2)	R23 : 4D L305: 2D (R/P C-2)	MHVE-2H	PB	1) Set the switch SW302 (R/P COLOR-2) to "ADJ". 2) Shortcircuit between TP38(4C) and GND on the R/P COLOR-2 board with a shorting wire. 3) Adjust R23 and L305 to minimize signal level (leakage of color component) at TP39. 4) After the adjustmrent, remove the shorting wire TP38 and GND. 5) Set the switch SW302 to the "NOR" position.
						
		TP33: 1B (R/P C) TP34: 4D (R/P C)	R1: 5F (R/P C)	MHVE-2H	PB	6) Play back the alignment tape MHVE-2H. ***Note: Set the TRACKING VR to the optimal position.*** 7) Adjust R1 so that level at TP3 is 60% of level at TP33.
						

***Note** • After turning off the power, remove the TBC-1 board not to activate the TBC circuit.*

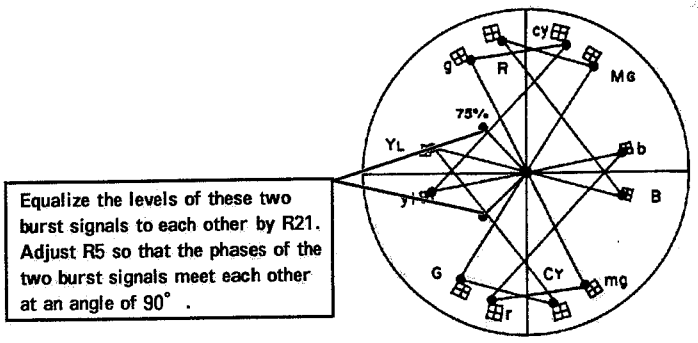
No.	Item	Check point	Adjustment	Signal	Mode	Check and Adjustment
12	**Crosstalk cancel**	TP39: 5D (R/P C-2)	R24 : 4E L307: 2E (R/P C-2)	MHVE-2H	PB	1) Set the switch SW303 (R/P COLOR-2) to "ADJ" position. 2) Shortcircuit between TP38(4C) and TP5V2(5C) on the R/P COLOR-2 board with a shorting wire. 3) Adjust R24 and L307 to minimize signal level (leakage of color component) at TP39. 4) After the adjustment, remove the shorting wire TP38 and TP5V2. 5) After the adjustment return SW303 to "NOR" position.
						
13	**BR-S522E CNR**	TP39: 5D (R/P C-2)	R25: 5D (R/P C-2)	MHVE-2H	PB	1) Set the VIDEO OUT switch to "NORM" position. 2) Adjust R25 so that signal level at TP39 becomes 0.27Vp-p.
						
		TP40: 5E (R/P C-2)	R26 : 6E (R/P C-2) L308: 6D (R/P C-2)	MHVE-2H	PB	3) Shortcircuit between TP42(6B) and GND on the R/P COLOR-2 board with a shorting wire. 4) Adjust R26 and L308 to minimize signal level (leakage of color component) at TP40. 5) After the adjustment, remove the shorting wire. 6) Set the VIDEO OUT switch to "EDIT" position.
						
	BR-S525E CNR	TP39: SWITCH-1 (R/P C-2)	R25: 5D (R/P C-2) R28: SWITCH-1 (R/P C-2)	MHVE-2H	PB	1) Set the VIDEO OUT switch to "NOR" position. 2) Adjust R25 so that signal level at TP39 becomes 0.27Vp-p. 3) Shortcircuit between TP1 and TP2 on the SWITCH-1 board with a shorting wire. 4) Adjust R28 so that signal level at TP39 becomes 0.27Vp-p. 5) After the adjustment, remove the shorting wire. 6) Set the VIDEO OUT switch to "EDIT" position.
						
		TP40: 5E (R/P C-2)	R26 : 6E (R/P C-2) L308: 6D (R/P C-2)	MHVE-2H	PB	3) Shortcircuit between TP42(6B) and GND on the R/P COLOR-2 board with a shorting wire. 4) Adjust R26 and L308 to minimize signal level (leakage of color component) at TP40. 5) After the adjustment, remove the shorting wire. 6) Set the VIDEO OUT switch to "EDIT" position.
						

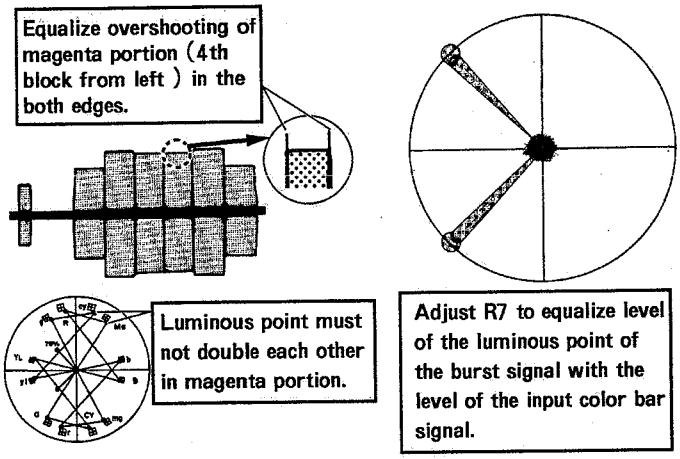
Note •After turning off the power, remove the TBC-1 board not to activate the TBC circuit.

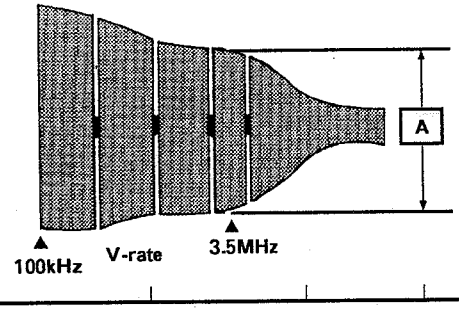
No.	Item	Check point	Adjustment	Signal	Mode	Check and Adjustment
14	**CNR feedback ratio**	TP40: 8A (R/P C-2)	R27: 5E (R/P C-2)	MHVE-2	PB	1) Set the VIDEO OUT switch to "NOR" position. 2) Shortcircuit between TP42(6B) and GND on the R/P COLOR-2 board with a shorting wire. 3) Magnify the portion "A" of the waveform by the oscilloscope's time axis. 4) In the magnified view of the waveform, set the portion "B" (maximum amplitude) for 4.0scale divisions on the oscilloscope with its GAIN VR. 5) Adjust R27 so that the level "C" 2H after the maximum amplitude "B" becomes for 2.0scale divisions. 6) After the adjustment, remove the shorting wire. 7) Set the VIDEO OUT switch to "EDIT" position.
						
15	**PB Pilot Burst phase detect**	TP32: 5E (R/P C-2)	R21 :3B EQ301:3B (R/P C-2)	MHVE-2H	PB	1) Set the switch SW301(3A) on the R/P COLOR-2 board to the upper position. 2) Confirm that the waveform of TP32's signal is as shown in the upper left figure.(pulse turns upwards) 3) If it turns in the contrary direction (downwards), set the switch SW301 to the lower position. 4) Adjust R21 and EQ301 to equalize the levels of the "A" and "B" shown in the upper left figure to each other. ***Note :*** ***• In the adjustment of the above step, make sure to do it not to leave any leak as shown in the lower left figure.*** ***• For adjustments of further steps, leave the switch SW301 as it is set in the above procedure.***
		 **Note :** **If adjustment with R21 and EQ301 does not bring about the result as shown in the "OK" figure, readjust them to maximize the level "B" while minimize the "leak" level.**				
16	**CRI equalizer**	TP6: 7H TP8: 7F (OUTPUT)	EQ1: 6H EQ2: 6G EQ3: 6F R8 : 5H (OUTPUT)	MHVE-2H	PB	1) Minimize signal level at TP6 with EQ1. 2) Shortcircuit between TP8 and TP9(7E) on the OUTPUT board with a shorting wire. 3) Adjust EQ2 so that signal level at TP8 becomes minimum. 4) Shortcircuit between TP8 and TP7(7E) on the OUTPUT board. 5) Adjust EQ3 and R8 to minimize signal level at TP8. ***Note : Setting of R8 shall be adjusted again in the item No.19 "Color output level".***
						
17	**AFC**	TP202: Burst Gate (R/P C)	R27: Burst Gate (R/P C)	—	No cassette	1) Adjust R27 to obtain 7.812kHz as frequency at TP202
		TP202 : 7.812±0.100kHz				

Note •After turning off the power, remove the TBC-1 board not to activate the TBC circuit.

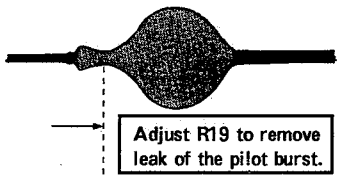
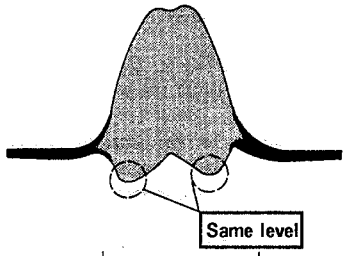
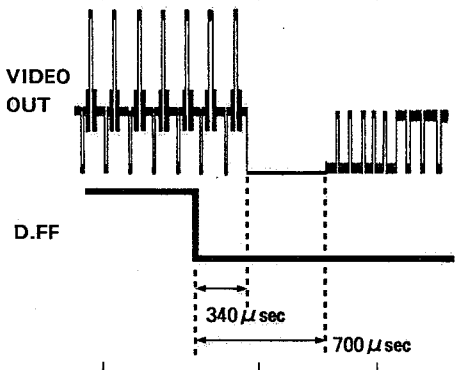
No.	Item	Check point	Adjustment	Signal	Mode	Check and Adjustment
18	**REF. Burst**	VIDEO OUT (75Ω terminator) ↓ Vectorscope	R21:8F(level) R5:8F(phase) (R/P C) R14 (level) R13 (phase) (BURST SW)	MHVE-2H	PB	1) Set the switch SW1 on the BURST SW board (on the R/P COLOR-2 board) to the "ON" position. 2) Make a shortcircuit between TP201 of the BURST GATE board and GND of the R/P C board. 3) Equalize the levels of these two burst signals to each other by R21. 4) Adjust R5 so that the phases of the two burst signals meet each other at an angle of 90° . 5) Check the phase and level of the burst signal after removing the shorting wire. 6) Again shortcircuit TP201 and GND. 7) Check the phase and level of the burst signal and adjust R14(LEVEL) and R13(PHASE) so that they are the same as those measured after removing the shorting wire.
19	**Color output level**	VIDEO OUT (75Ω terminator) ↓ Vectorscope	R7: 5I (OUTPUT) R8: 5H (OUTPUT)	MHVE-2H	PB	1) Set the VIDEO OUT switch to "NORM" position. 2) Adjust R8 so that color signal's magenta portion overshoots its edge evenly to the right and left side. ***Note: On that occasion, connect the VIDEO OUT signal to the vectorscope while confirming that luminous points are not overlapping each other in the magenta portion.*** 3) Input the color bar signal directly to the vectorscope while adjusting the GAIN VR so that the burst level crosses the scope's circumference. 4) Disconnect color bar signal from the vectorscope and connect the same terminal with the VIDEO OUT to input the signal. 5) Adjust R7 so that the burst level is the same as in the step 3). 6) After the adjustment, return the VIDEO OUT switch to "EDIT" position.
20	**Auto equalizer**	Y/C 443 •Y OUT (75Ω terminator)	R2: 9I (OUTPUT)	MBVE-14H	PB	1) Confirm that the VITC REC switch (SA-R22E) being set to "OFF". 2) Play back the alignment tape MBVE-14H. 3) With S1 on the OUTPUT board set to MANU position, measured the 3.5MHz signal level and regard the measured value as "A". 4) Set the switch S1 to the AUTO position. 5) Adjust R2 so that the 3.5MHz signal level is equal to "A". ***Note :*** ***Since there are two best points obtained by adjusting R2, turn it full clockwise first and then return counterclockwise to find the best adjustment point for the first time.***







Note • *After turning off the power, remove the TBC-1 board not to activate the TBC circuit.*
• *Confirm that the switch SW1 on the OUTPUT board is set to "AUTO" position.*

No.	Item	Check point	Adjustment	Signal	Mode	Check and Adjustment
21	**Pilot Burst delete**	Y/C 443 •C OUT (75Ω terminator)	R19: 10C (R/P C)	MHVE-2H	PB	1) Adjust R19 to remove leak of the pilot burst as shown in the figure. ***Note :*** ***In this adjustment, make sure not to break the burst waveform.***
						
22	**PB Y/C delay**	Y/C 443 OUT (75Ω terminator)	R1: 14I (R/P C)	Pulse & bar	REC S-VHS ↓ PB	***Since this set has no VIDEO INPUT terminal, use a tape on which the pulse & bar signal is recorded by the BR-S822E or BR-S622E for the following adjustments.*** 1) Turn off the power switch and connect the TBC-1 board. 2) Mix outputs of the Y OUT and C OUT of the Y/C443 OUT terminal by the oscilloscope, which is triggered with Y OUT signal. 3) Play back a tape on which the pulse & bar signal is recorded in the S-VHS mode while adjusting R7 to symmetrize the modulated 12.5T pulse at the bottom of the waveform. ***Note: Set the TRACKING VR to the optimal position.***
						
			R2: 5I (R/P C)	Pulse & bar	REC VHS ↓ PB	4) Play back a tape on which the pulse & bar signal is recorded in the VHS mode while adjusting R8 to symmetrize the modulated 12.5T pulse at the bottom of the waveform. ***Note: Set the TRACKING VR to the optimal position.*** 5) After the adjustment is completed, make sure to turn off the power and disconnect the TBC-1 board.
23	**BR-S522E ADD V pulse**	VIDEO OUT (75Ω terminator)	R4: 7D R5: 6E (OUT PUT)	MHVE-2H	PB ↓ STILL	1) Turn off the TBC switch. 2) Record the color bar signal, and play it back in the STILL mode. 3) Adjust R4 and R5 to position the ADD V pulse as shown in the figure.
						

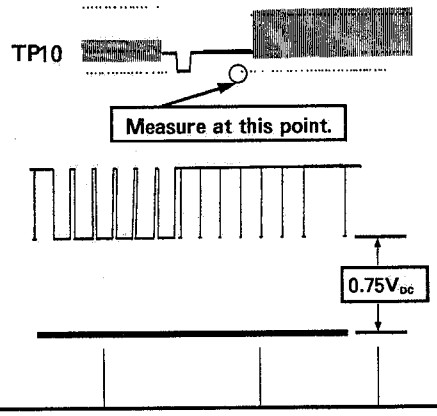
Note •*After turning off the power, remove the TBC-1 board not to activate the TBC circuit.*
•*Confirm that the switch SW1 on the OUTPUT board is set to "AUTO" position.*

No.	Item	Check point	Adjustment	Signal	Mode	Check and Adjustment
24	On screen	TP13: 3B (AVM/ONS) ↓ Frequency counter	C101: 3B (AVM/ONS)	MHVE-2H	PB	1) Adjust C101 to obtain 17.734476MHz as the frequency at TP13.
			TP13 : 17.734476MHz±100Hz			
		TP14: 5B (AVM/ONS) ↓ Frequency counter	C102: 4C (AVM/ONS)	MHVE-2H	PB	2) Adjust C102 to obtain 7.0MHz as the frequency at TP14.
			TP14 : 7.0MHz±50kHz			

3. 5 VITC SEP CIRCUIT

Note •*After turning off the power, remove the TBC-1 board not to activate the TBC circuit.*
•*Confirm that the switch SW1 on the OUTPUT board is set to "AUTO" position.*

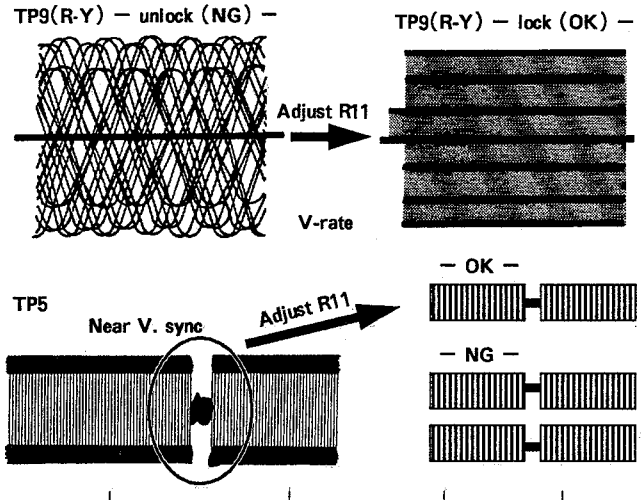
No.	Item	Check point	Adjustment	Signal	Mode	Check and Adjustment
1	VITC SEP CLAMP Voltage	TP10: 2F (AVM/ONS)	R1001: 3G (AVM/ONS)	MHVE-2H	PB	1) Adjust DC level of the sync tip to be 0.75V with R1001. *Note: Adjust level near V. sync. (See the figure below).*

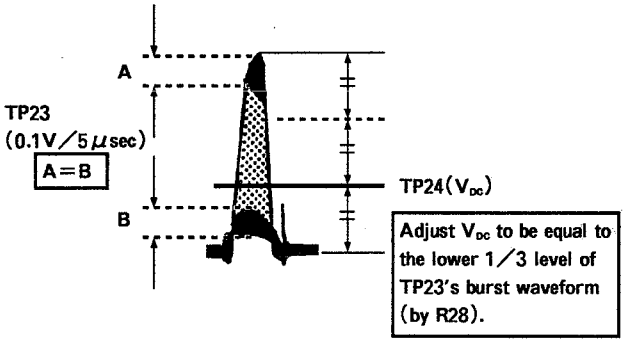


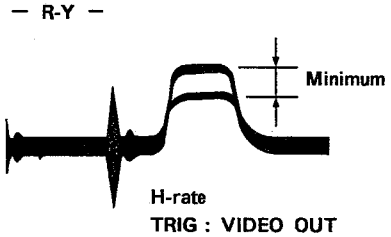
3. 6 TBC-2 CIRCUIT (BR-S525E)

Note: *• For adjustment in this section, check points and adjustment parts are located on the TBC-2 board unless otherwise specified.*
Do not disturb the volume R6 since it is not an object of this adjustment. (R6 is set to the full clockwise position.)

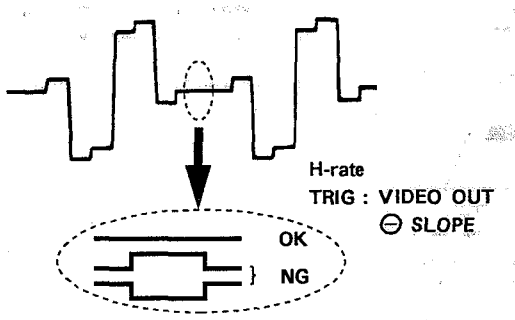
No.	Item	Check point	Adjustment	Signal	Mode	Check and Adjustment
1	**Decorder APC**	TP9: 1G TP5: 2B TP1: 3E	R11: 2B	MHVE-2H	PB	1) Observe waveform at TP9 with an oscilloscope at the V-rate. 2) Confirm that the waveform observed at TP9 is locked. If not, adjust R11 to lock the waveform (see the figure).
						3) Connect the oscilloscope with TP1 and TP5. 4) Comparing waveform at TP5 with that at TP1, adjust R11 so that the TP5's waveform has the center of error voltage nearly in the section corresponding to the V. sync of the TP1's waveform. ***Note : After the adjustment, confirm that waveform observed at TP9 is locked.***
2	**Color killer**	TP23: 7H TP24: 7H	R27: 7E R28: 7H	MHVE-2H	PB	1) Adjust R7 so that the waveform observed at TP23 has the same level in the portions "A" and "B" shown in the figure. 2) Adjust DC voltage measured at TP24 by R28 so that the DC voltage is equal to the lower 1/3 of the full level of TP23's waveform. **— Reference —** **For the above adjustment, measure 1/3 value of DC voltage of TP23's burst waveform first, then adjust DC voltage measured at TP24 to have the same value as the 1/3 of TP23's DC voltage. (For this adjustment, make sure to measure voltages at TP23 and TP24 with the same GND and voltage range.)**
3	**HUE**	TP9: 1G	R7: 1F	MHVE-2H	PB	1) Adjust R7 so that waveforms of R-Y signals do not double each other in the burst portion.

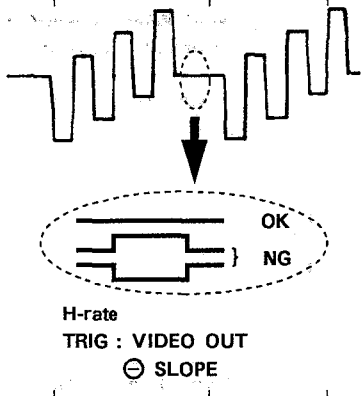


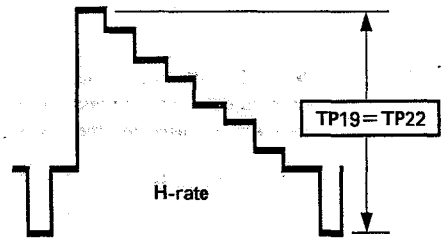




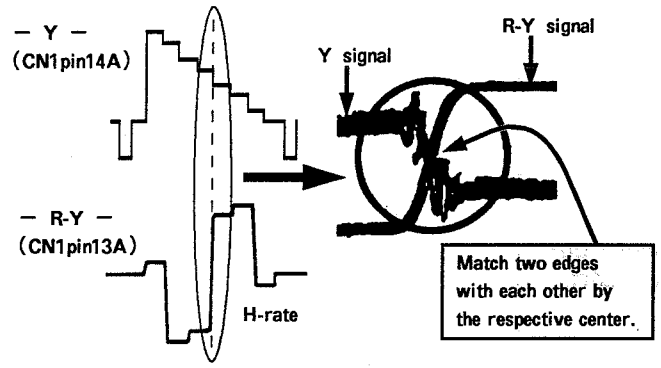
No.	Item	Check point	Adjustment	Signal	Mode	Check and Adjustment
4	**DC level difference in R-Y blanking**	CN1pin13A (EXT. board)	R8: 2I	MHVE-2H	PB	1) Adjust R8 to remove level difference (DC) in the burst blanking portion of the R-Y signal.
5	**DC level difference in B-Y blanking**	CN1pin12A (EXT. board)	R9: 3I	MHVE-2H	PB	1) Adjust R9 to remove level difference (DC) in the burst blanking portion of the B-Y signal.
6	**COMPONENT Y level**	TP19: 12F TP22: 12F	R21: 10I	MHVE-2H	PB	***Note: Do not disturb this VR (R21) except in the case adjustment is necessary or specially indicated since they are not used for the BR-S525E in general.*** 1) Adjust R21 to equalize TP19 signal to TP22 signal level.

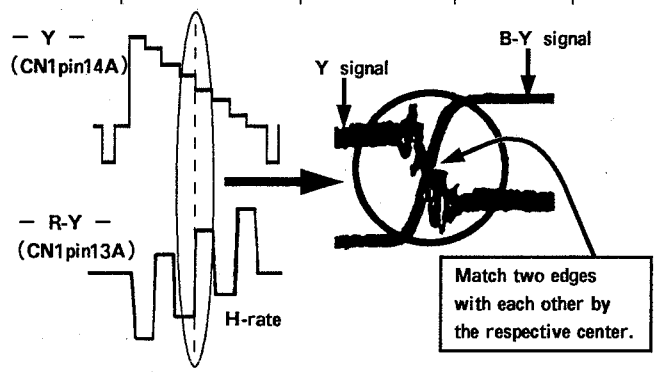


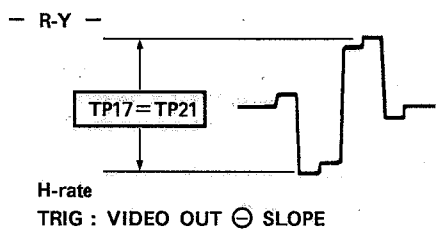


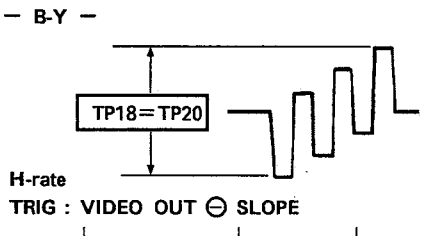


No.	Item	Check point	Adjustment	Signal	Mode	Check and Adjustment
7	**Y/R-Y delay**	CN1pin14A CN1pin13A (EXT. board)	R2: 5F	MHVE-2H	PB	1) Set the MEMORY switch No.104 (COMPONENT OUT LEVEL) to "HIGH" position. 2) Adjust R2 so that waveforms of Y signal and R-Y signal overlap each other in the respective centers shown in the left figure. ***Note: When the waveform is observed double, adjust by the midpoint of respective centers of the two waveforms.*** 3) Return the MEMORY switch No.104 to "LOW" position.
8	**Y/B-Y delay**	CN1pin14A CN1pin12A (EXT. board)	R4: 5F	MHVE-2H	PB	1) Set the MEMORY switch No.104 (COMPONENT OUT LEVEL) to "HIGH" position. 2) Adjust R4 so that waveforms of Y signal and R-Y signal overlap each other in the respective centers shown in the left figure. ***Note: When the waveform is observed double, adjust by the midpoint of respective centers of the two waveforms.*** 3) Return the MEMORY switch No.104 to "LOW" position.
9	**COMPONENT color level**	TP17 : 10G TP21 : 10H	R3: 4I(R-Y)	MHVE-2H	PB	***Note: Do not disturb these VRs (R3, R5) except in the case adjustment is necessary or specially indicated since they are not used for the BR-S525E in general.*** 1) Adjust R3 to equalize TP17 signal to TP21 signal level.
		TP18 : 9G TP20 : 8H	R5: 4I(B-Y)	MHVE-2H	PB	***Note: Do not disturb these VRs (R3, R5) except in the case adjustment is necessary or specially indicated since they are not used for the BR-S525E in general.*** 1) Adjust R5 to equalize TP18 signal to TP20 signal level.

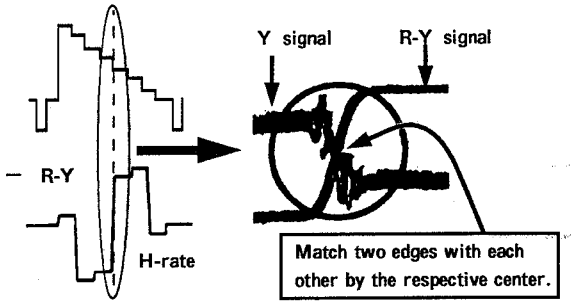


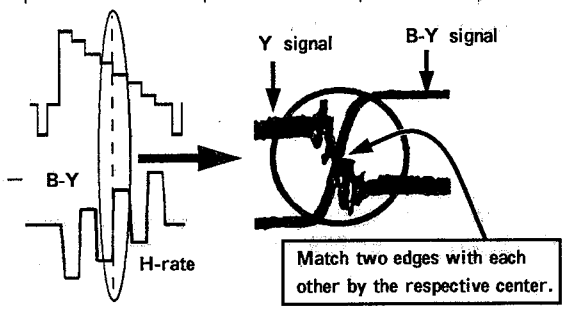


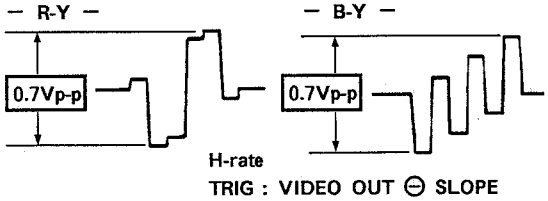




No.	Item	Check point	Adjustment	Signal	Mode	Check and Adjustment
	Note : For adjustment of items No.10 and after , confirm that the TBC-1 board has been adjusted correctly.					
10	**TBC mode COMPONENT Y level**	COMPONENT ▪Y OUT (75Ω terminator)	R26: 10I	MHVE-2H	PB	1) Set the MEMORY switch No.104 (COMPONENT OUT LEVEL) to "HIGH" position. 2) Adjust R26 so that Y level at the COMPONENT OUT terminal is 1.0Vp-p . 3) Return the MEMORY switch No.104 to "LOW" position.
11	**TBC mode Y/R-Y delay**	COMPONENT ▪Y OUT ▪R-Y OUT (75Ω terminator)	R22: 10G	MHVE-2H	PB	1) Adjust R22 so that phases of Y output waveform and R-Y output waveform observed at the COMPONENT OUT terminal match with each other in the portion shown in the figure. ***Note:*** ▪ ***When the waveform is observed double, adjust by the midpoint of respective centers of the two waveforms.*** ▪ ***After this adjustment, make sure to adjust Y/C timing of the TBC-1 board.***
12	**TBC mode Y/B-Y delay**	COMPONENT ▪Y OUT ▪B-Y OUT (75Ω terminator)	R24: 8G	MHVE-2H	PB	1) Adjust R24 so that phases of Y output waveform and B-Y output waveform observed the COMPONENT OUT terminal match with each other in the portion shown in the figure. ***Note:*** ▪ ***When the waveform is observed double, adjust by the midpoint of respective centers of the two waveforms.*** ▪ ***After this adjustment, make sure to adjust Y/C timing of the TBC-1 board.***
13	**TBC mode COMPONENT color level**	COMPONENT ▪B-Y OUT ▪R-Y OUT (75Ω terminator)	R23:9I(R-Y) R25:8I(B-Y)	MHVE-2H	PB	1) Set the MEMORY switch No. 104 (COMPONENT OUT LEVEL) to "HIGH" position. 2) Adjust R23 so that R-Y output level at the COMPONENT OUT terminal is 0.7Vp-p. 3) Adjust R25 so that B-Y output level at the COMPONENT OUT terminal is 0.7Vp-p. 4) Return the MEMORY switch No.104 to "LOW" position.

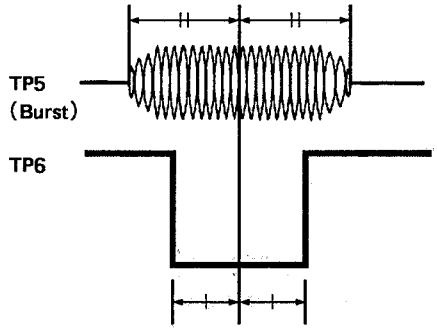




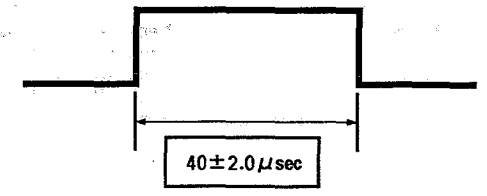


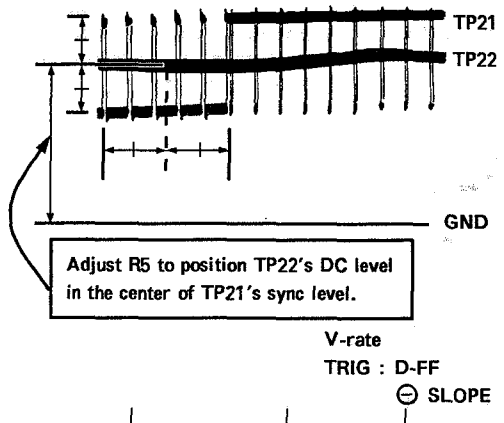
3. 7 TBC-3 CIRCUIT (BR-S525E)

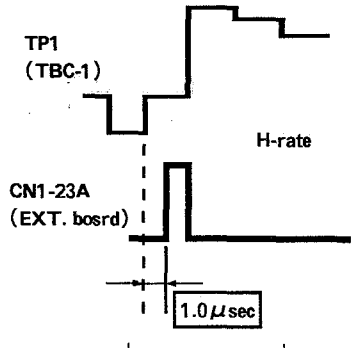
Note: • Unless otherwise indicated, all check points and adjustment parts are located on the TBC-3 board.
• For check and adjustment of this circuit, supply a signal synchronized with the signal which will be input to theVIDEO IN terminal to the EXT. REF IN terminal of the VIDEO LINE IN connector with 75Ω terminator.
• Do not disturb the volume R12 since it is not an object of this adjustment. (R12 is set to the center position.)

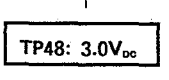
No.	Item	Check point	Adjustment	Signal	Mode	Check and Adjustment
1	**Decoder APC frequency**	TP51: 3F ↓ Frequency counter TP 51 : 4.433619MHz ±5Hz	R1: 1H	Color bar ↓ EXT.REF. (75Ω terminator)	No cassette	1) Set SW1-1 on the TBC-3 board to "ON". 2) Adjust R1 so that frequency at TP51 becomes 4.433619MHz. 3) Return SW1-1 to "OFF".
2	**Burst flag mask pulse position**	TP5: 1E TP6: 1G 	R2: 2H	Color bar ↓ EXT.REF. (75Ω terminator)	No cassette	1) With an oscilloscope, observe waveforms of pulse at TP6 and burst at TP5. 2) Adjust R2 to coincide respective centers of the burst and the pulse with each other in the waveforms.
3	**Color killer**	TP9: 2E ↓ Digital Voltmeter	—	Color bar ↓ EXT.REF. (75Ω terminator)	No cassette	1) Measure DC voltage at TP9 (regard the measured voltage as "A").
				5step (nonburst) ↓ EXT.REF. (75Ω terminator)	No cassette	1) With input of 5steps signal, measure DC voltage at TP9 (regard the measured voltageas "B").
		TP8: 2E ↓ Digital Voltmeter (B+A)/2 = V_{DC} at TP8 A: V_{DC} at TP9 with input of color bar signal. B: V_{DC} at TP9 with input of 5step signal.	R4: 1E	Color bar ↓ EXT.REF. (75Ω terminator)	No cassette	1) Adjust R4 so that DC voltage measured at TP8 is centered between "A" and "B".

No.	Item	Check point	Adjustment	Signal	Mode	Check and Adjustment
4	**Half H killer pulse width**	TP26: 7H	R7: 7I	MHVE-2H	PB	1) Adjust R7 so that pulse width measured at TP26 is 40 μ sec in duration.
5	**2nd sync separation level**	TP21: 10G TP22: 10F	R5: 10G	MHVE-2H	PB	1) Connect oscilloscope's CH1 and CH2 with TP21 and TP22 respectively. ***Note Set the oscilloscope's measuring range and GND level to be the same for CH1 and CH2.*** 2) Adjust R5 to position TP22's DC level in the center of TP21's sync level. ***Note Make sure that the oscilloscope is set to DC range for both CH1 and CH2.***
6	**Clamp pulse position**	TP1: 10E (TBC-1) CN1pin 23A (EXT. board: TBC-3)	R8: 4H (TBC-3)	MHVE-2H	PB	1) Connect the oscilloscope's probes to pin 23A of CN1 and TP1 on the TBC 1 board while trigger it with signal from TP1 on the TBC-1 board. 2) Adjust R8 so that the rise of the pulse from pin23A of CN1 is 1.0 μ sec after the sync of TP1's pulse.
7	**VCO voltage**	TP48: 6C	L1: 6B	MHVE-2H	PB	1) Adjust L1 so that voltage at TP48 is 3.0V_{DC}.





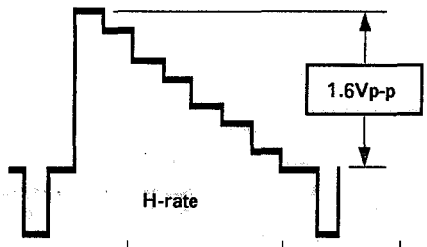


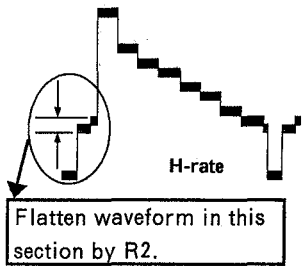


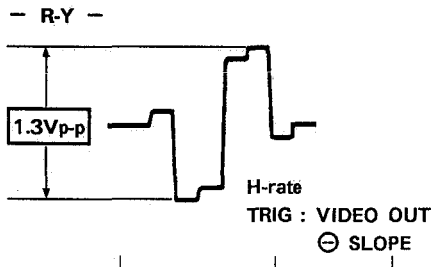
3. 8 TBC-1 CIRCUIT (BR-S525E)

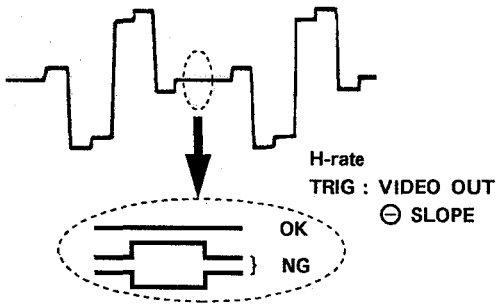
Note: • *Unless otherwise indicated, all check points and adjustment parts are located on the TBC-1 board.*
• *For check and adjustment of this circuit , supply a signal synchronized with the signal which will be input to the VIDEO IN terminal to the EXT. REF IN terminal of the VIDEO LINE IN connector with 75Ω terminator.*
• *Adjust this circuit with MEMORY switch No.104 (COMPONENT OUT LEVEL) set "HIGH". After adjustment, make sure to turn it "LOW".*

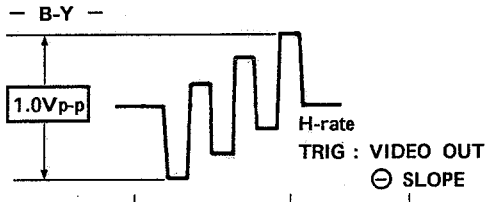
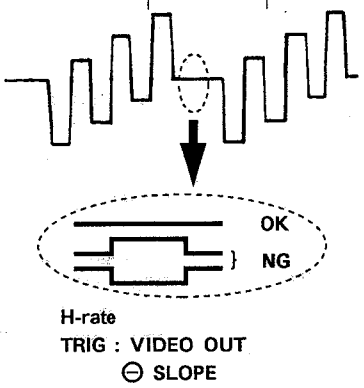
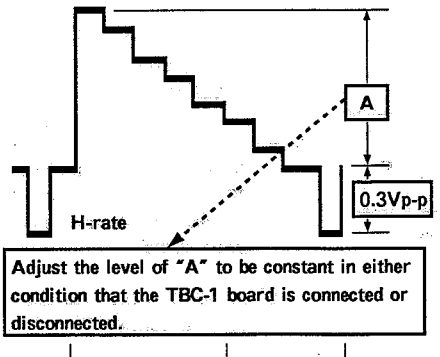
No.	Item	Check point	Adjustment	Signal	Mode	Check and Adjustment
1	**A/D Y level**	TP1: 10E	R1: 14C	MHVE-2H	PB	1) Adjust R1 so that level difference between TP1's pedestal level and 100% white level (except sync of Y level) is 1.6Vp-p.
2	**A/D Y clamp level**	CN2pin20A (EXT. board) or COMPONENT •Y OUT (75Ω terminator)	R2: 9E	MHVE-2H	PB	1) Observing waveform at pin 20A of CN2, adjust R2 to flatten the waveform in the section shown in the figure.
3	**A/D R-Y level**	TP2: 11C	R3: 13C	MHVE-2H	PB	1) Adjust R3 so that output (R-Y level) at TP2 is 1.3Vp-p.
4	**A/D R-Y clamp level**	CN2pin21A (EXT. board) or COMPONENT •R-Y OUT (75Ω terminator)	R4: 10B	MHVE-2H	PB	1) Adjust R4 to remove DC level difference in the blanking portion of CN2pin 21A (COMPONENT R-Y OUT).



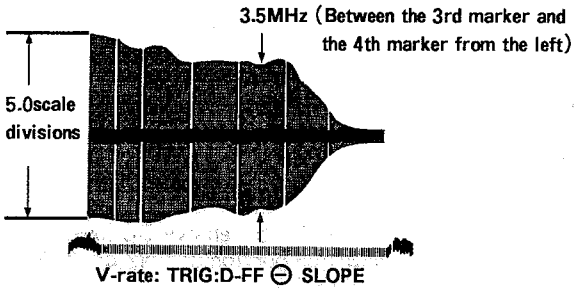




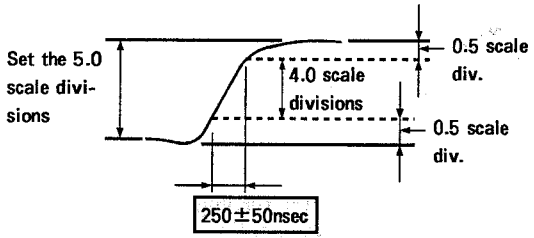


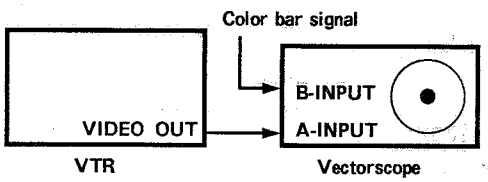
No.	Item	Check point	Adjustment	Signal	Mode	Check and Adjustment
5	**A/D B-Y level**	TP3: 11C	R5: 13C	MHVE-2H	PB	1) Adjust R5 so that output (B-Y level) at TP3 is 1.0Vp-p.
						
6	**A/D B-Y clamp level**	CN2pin22A (EXT. board) or COMPONENT •B-Y OUT (75Ω terminator)	R6: 9B	MHVE-2H	PB	1) Adjust R6 to remove DC level difference in the blanking portion of CN2 pin 22A, (COMPONENT B-Y OUT).
						
7	**Y output level**	Y/C 443 •Y OUT or VIDEO OUT (75Ω terminator)	R9: 14I	MHVE-2H	PB	1) After turning off the power, remove the TBC-1 board not to activate the TBC circuit. 2) Turn on the power switch and play the MHVE-2H alignmenttape. 3) Adjust the oscilloscope's GAIN control so that level "A" of Y/C 443 Y OUT becomes 6.0 scale divitions on the scope. 4) Turn off the power switch and connect the TBC-1 board. Turn on the power switch and play the MBVE-3H. 5) Adjust R9 so that level "A" of Y/C443 Y OUT becomes 6.0 scale divitions.
						
		VIDEO OUT (75Ω terminator)	R7: 13I	MHVE-2H	PB	6) Adjust R7 to obtain 0.3Vp-p as the sync level.

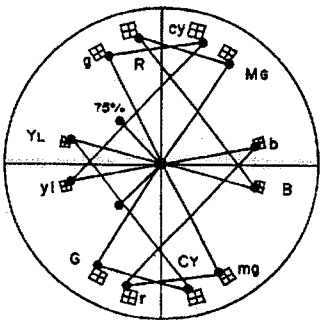
No.	Item	Check point	Adjustment	Signal	Mode	Check and Adjustment
8	**Y OUT frequency response**	Y/C 443 •Y OUT (75Ω termainator)	R10: 15D	MBVE-3H	PB	1) Set S2 on the Y COMB board to "B/W". 2) After turning off the power, remove the TBC-1 board not to activate the TBC circuit. 3) Set 100kHz signal level for 5.0 scale divisions on the oscilloscope screen, and take note of 3.5MHz signal level as "A". 4) Turn off the power switch and connect the TBC-1 board. Turn on the power switch and play the MBVE-3H alignmenttape. 5) While setting 100kHz signal level for 5.0 scale divisions on the oscilloscope screen in the same manner as the above step 3), adjust R10 to equalize 3.5MHz siganl level to the level "A" taken note of previously. 6) Return S2 on the Y COMB board to "NORM" position.
9	**Sync rise-up time**	Y OUT or CN2pin20A (EXT. board)	R8: 12F	MHVE-2H	PB	1) Observe the rise portion of the waveform at the Y OUT with an oscilloscope. 2) Adjust R8 to set the rise-up time of sync signal to be 250 nsec in the portion between 10% and 90%. — **Suggestion** — **Adjust the oscilloscope's GAIN control to set the sync level for 5 scale divitions, and then adjust the time for the 4 scale divitions in the center to be 250 nsec.**
10	**SC frequency**	VIDEO OUT (75Ω terminator) ▼ Vectorscope	R12: 2I	MHVE-2H	PB	1) Connect the VIDEO OUT terminal with the vectorscope's A-INPUT terminal to supply output signal from it. 2) Input the color bar signal directly to the vectorscope's B-INPUT terminal. 3) Select the B-INPUT signal as the vectorscope's REF signal, and confirm that the waveform rotates in the screen. 4) Stop the waveform rotation by adjusting R12. ***Note: If waveform does not stop rotation by turning R12, readjust it so that the waveform slowly rotates and it takes 5seconds or more for turning around in a complete circle.*** 5) After completing the above adjustments, restore all the connections changed for the adjustment to the original connections.



Adjust the 3.5MHz level to be constant in either condition that the TBC-1 board is connected or disconnected.

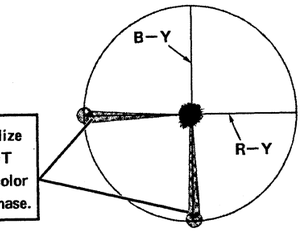


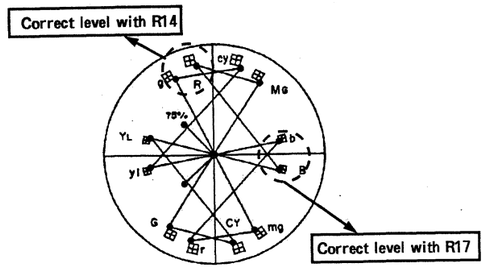


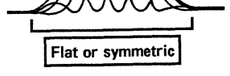


Adjust R12 so that the waveform does not rotate or turns around in a complete circle in more than 5 seconds. (Rotational direction is disregarded for this adjustment.)

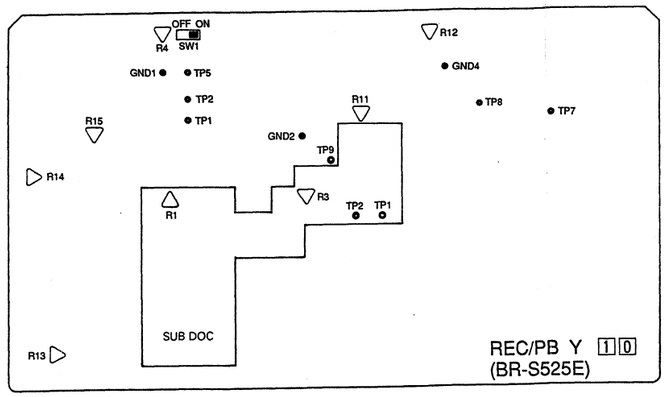
No.	Item	Check point	Adjustment	Signal	Mode	Check and Adjustment
11	**Carrier balance**	Y/C 443 •C OUT (75Ω termainator)	R20: 12I R21: 12I	MHVE-2H	PB	1) Confirm that the burst level is about 0.3Vp-p. 2) Adjust R20 and R21 so that carrier leak is minimum at the Y/C 443 C OUT terminals. ***Note: Adjust R20 and R21 alternately to obtain minimum carrier leak.*** 3) Connect a vectorscope with the Y/C443 C OUT terminal, and adjust R20 and R21 to position the central luminous center at the center of the vectorscope screen.
12	**Encoder burst level**	VIDEO OUT (75Ω terminator) ▼ Vectorscorpe	R18:13H(R-Y) R19:13I(B-Y)	MHVE-2H	PB	1) Input the color bar signal directly to the vectorscope while adjusting the GAIN control so that the burst level crosses the scope's circumference. 2) Adjust two burst positions with the PHASE VR of the vectorscope so that they are position in the R-Y and B-Y axes respectively. 3) Disconnect color bar signal from the vectorscope, while connect output of the VIDEO OUT terminal with it. and play the MHVE-2H alignment tape. 4) Adjust R18 and R19 to equalize two burst of the VIDEO OUT signal to those of the color bar signal in the level and phase. ***Note: If there is level difference between the two burst signals, use average level of the two for adjustment.***
13	**Encoder color level**	VIDEO OUT (75Ω terminator) ▼ Vectorscorp	R14:11I(R-Y) R17:11I(B-Y)	MHVE-2H	PB	1) Input the color bar signal directly to the vectorscope (75Ω terminated), and adjust the GAIN control to position all dots of respective colors in the ⊞ marking. 2) Temporarily adjust R14 to position the Red signal in the specified point (⊞ marking) 3) Temporarily adjust R17 to position the Blue signal at the specified level (⊞ marking) 4) Adjust R14 and R17 to position all dots of respective colors in the ⊞ markings.
14	**Y/C timing**	VIDEO OUT (75Ω terminator)	SW1: 7I	Pulse & bar	REC S-VHS ▼ PB	***Note:*** ***When adjusting this item for the BR-S525E, record pulse & bar signal by the BR-S822E/BR-S622E once and play it back by the BR-S525E.*** ***In that event, make sure that the REC Y/C delay (3.4 No.31) adjustment of BR-S822E/BR-S622E used for recording is completely performed.*** 1) Set the Y/C TIMING switch on the sub panel to "8" position. 2) Set SW1 to simmetrize the modulated 20T pulse in the base of the waveform possibly.

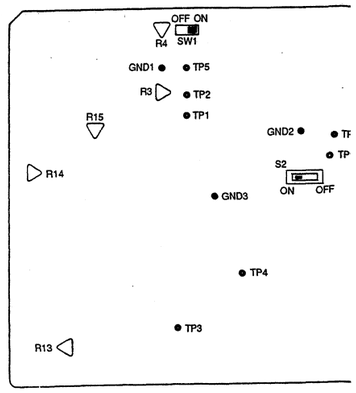


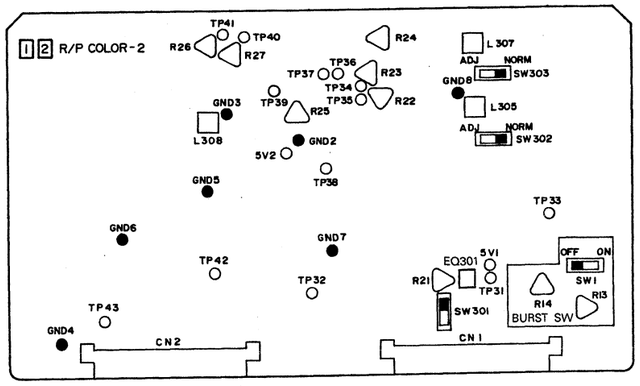


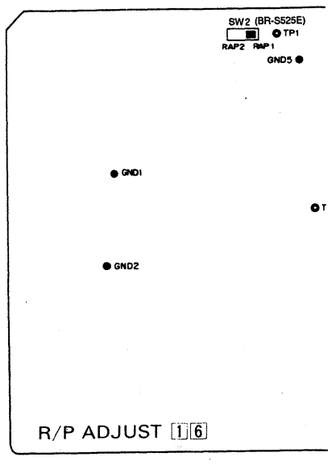


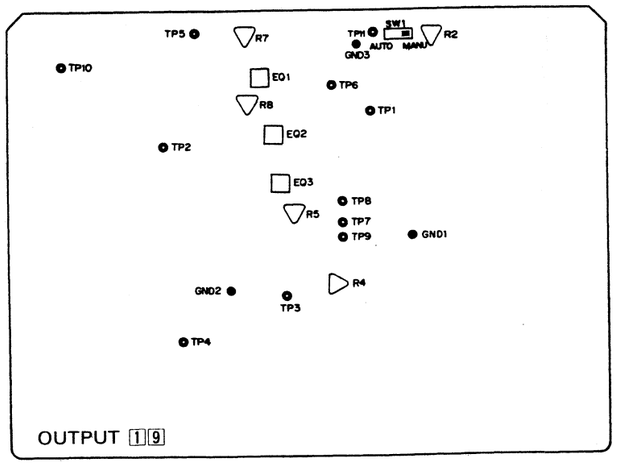
■ LOCATION OF TEST POINTS AND ADJUSTMENT PARTS

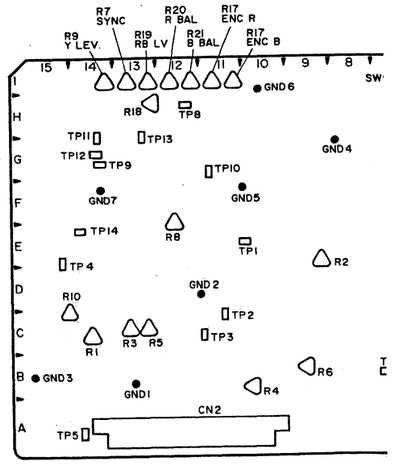




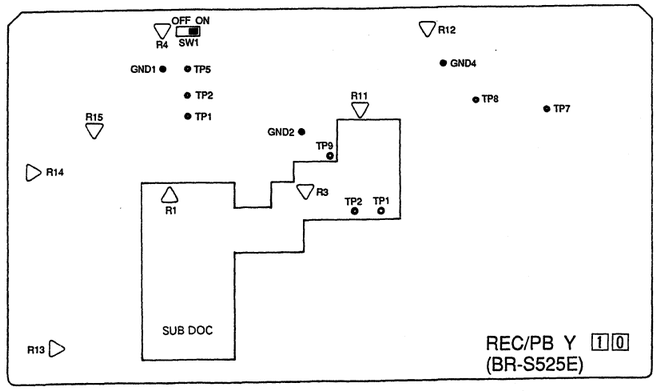


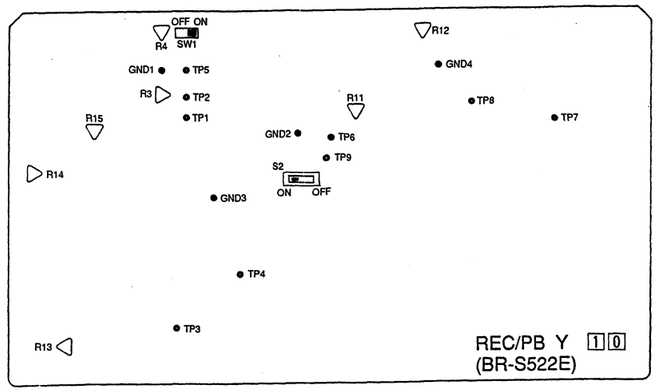


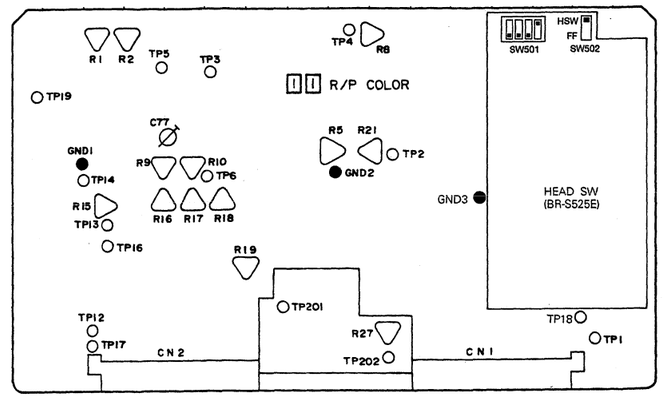


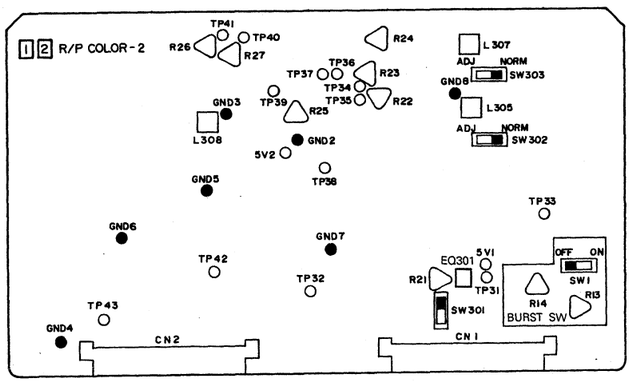


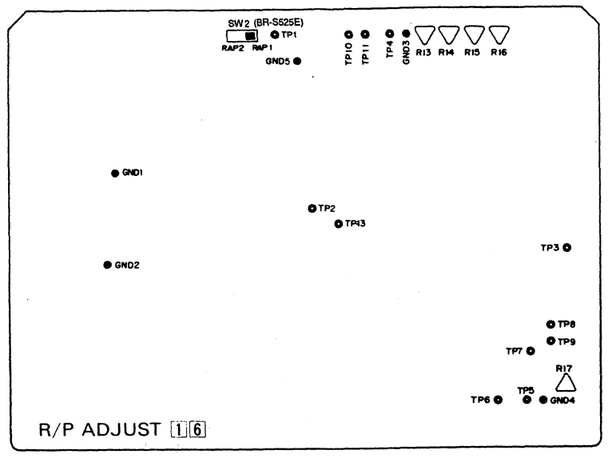
■ LOCATION OF TEST POINTS AND ADJUSTMENT PARTS

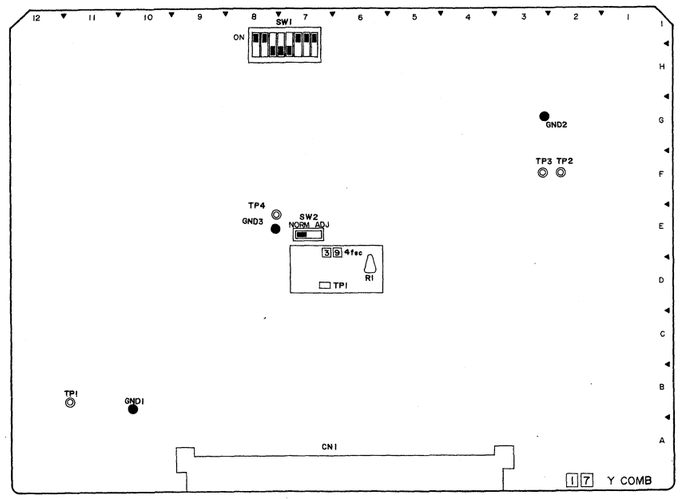


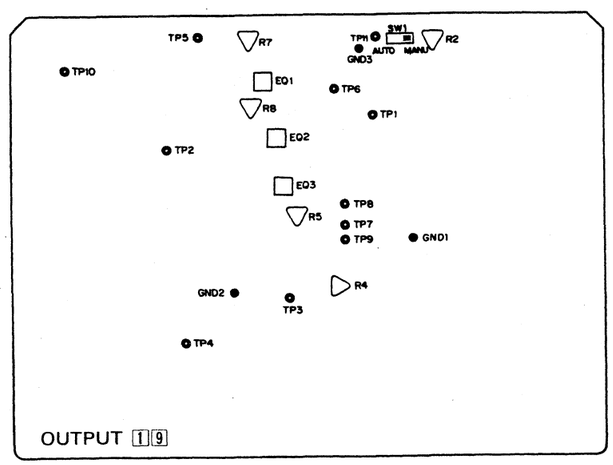


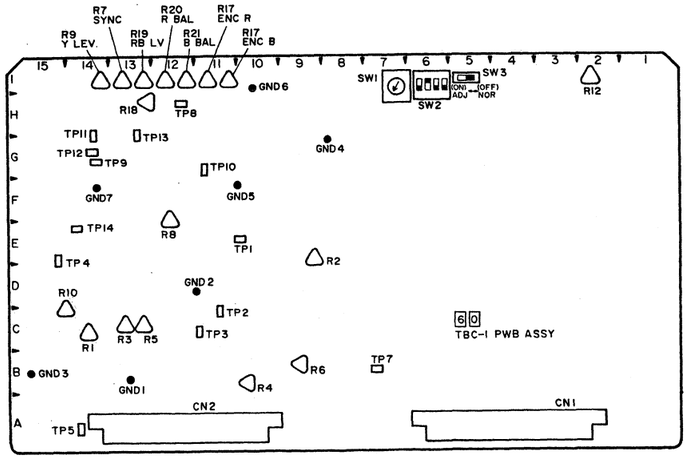


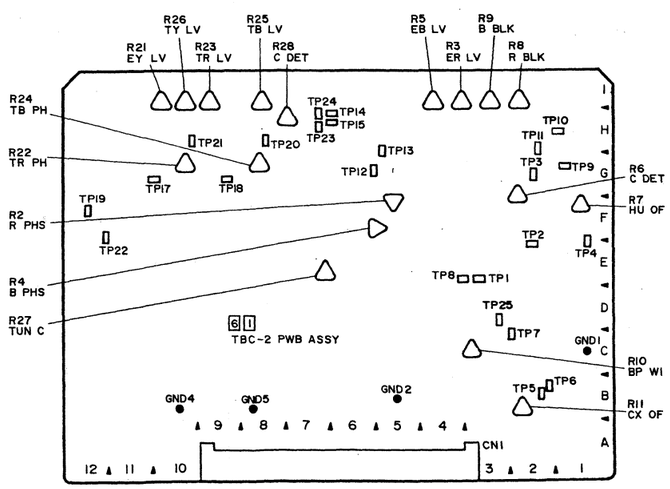




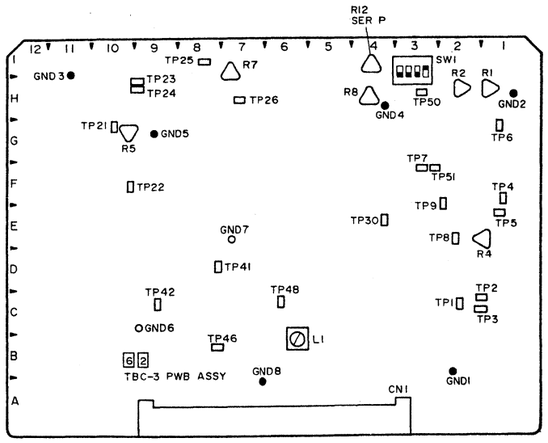


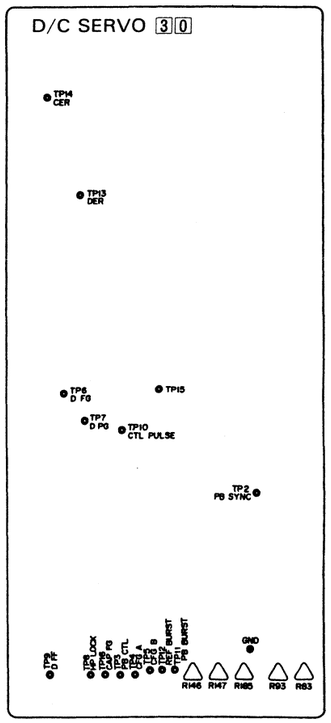


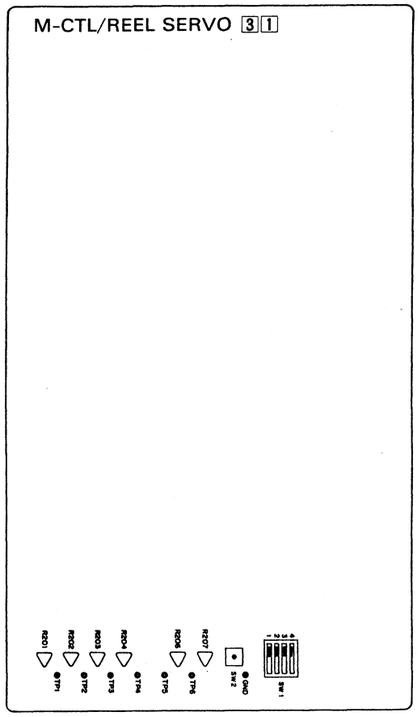


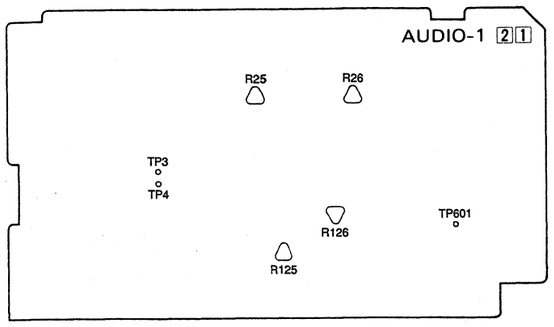


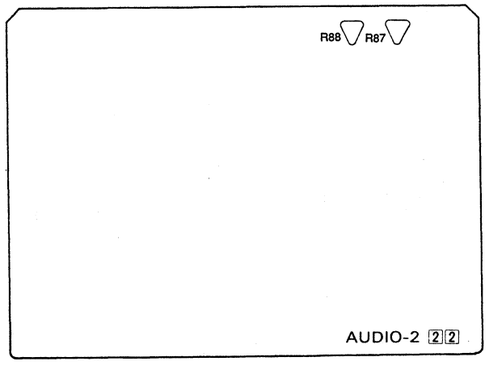
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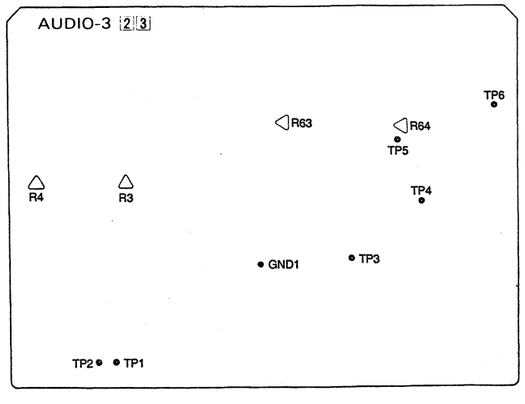


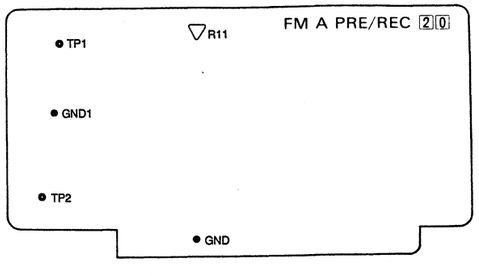


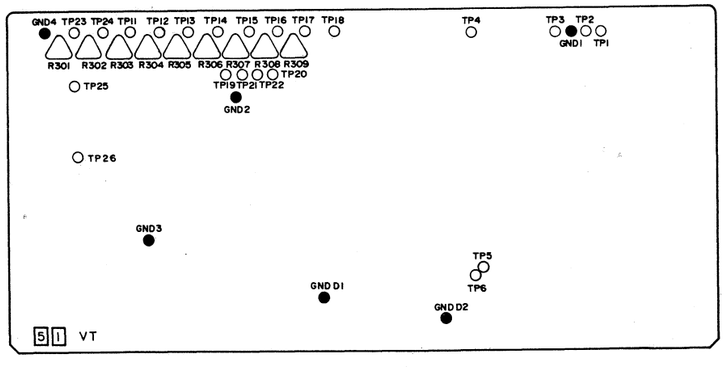












5 1 VARIABLE TRACKING (AT)



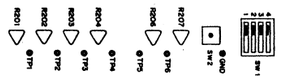
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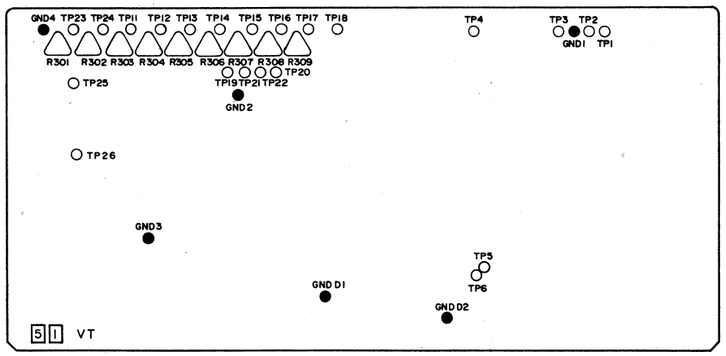
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No.	Iten
1	Video phase
2	Genlock H phas
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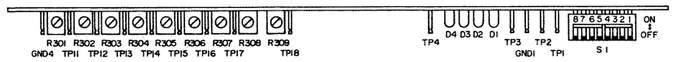
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M-CTL/REEL SERVO 3 1





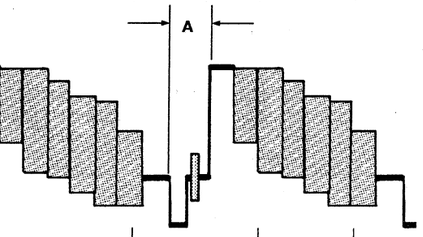
5 1 VARIABLE TRACKING (AT)

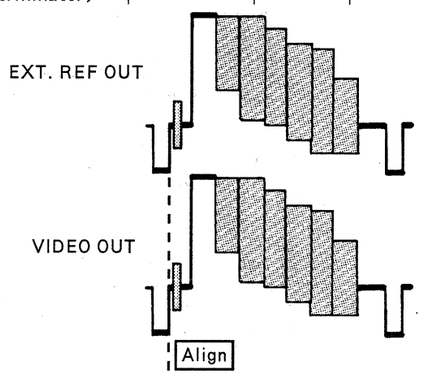


3. 9 SUB PANEL CIRCUIT (BR-S525E)

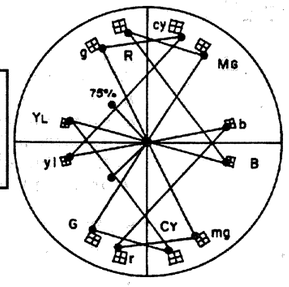
Note: *• Before proceeding to the following adjustment, make sure that the TBC-1,2,3 boards are correctly adjusted.*
• Unless otherwise indicated, all check points and adjustment parts are located on the SUB PANEL board.
• For check and adjustment of this circuit, supply color bar signal to the EXT. REF IN terminal of the VIDEO LINE IN connector.

No.	Item	Check point	Adjustment	Signal	Mode	Check and Adjustment
1	**Video phase**	VIDEO OUT (75Ω terminator)	VIDEO PHASE VR	MHVE-2H	PB	1) After turning off the power, remove the TBC-1 board not to activate the TBC circuit. 2) Adjust the oscilloscope's GAIN control so that the portion "A" (see the figure) of the output waveform from the VIDEO OUT becomes for 4.0 scale divisions on the scope. 3) As the power is turned off, re-install the TBC-1 board and play back thealignment tape MHVE-2H. 4) Adjust the VIDEO PHASE VR so that the portion "A" (see the figure) of the output waveform from the VIDEO OUT becomes for 4.0 scale divisions on the oscilloscope.
2	**Genlock H phase**	VIDEO OUT EXT.REF. OUT (75Ω terminator)	SYSTEM PHASE VR	MHVE-2H	PB	1) Obeserve output waveforms at the VIDEO OUT and EXT. REF OUT terminals. 2) Adjust the SYSTEM PHASE VR so that the two waveforms mentioned above become the same in the phase (to be the same waveform).
3	**Genlock SC phase**	VIDEO OUT (75Ω terminator) ↓ Vectorscope	SC PHASE VR	MHVE-2H	PB	1) Connect a vectorscope's A INPUT terminal to the VIDEO OUT terminal and B INPUT terminal to the EXT. REF OUT terminal. 2) Trigger the vectorscope externally (B-INPUT). 3) Set the vectorscope's PHASE and GAIN controls to position the burst signal of the B INPUT terminal correctly. 4) Adjust the SC PHASE VR to position the burst signal of A INPUT correctly.





Adjust the SC PHASE VR so that the two waveforms mentioned above become the same in the phase.



3-26

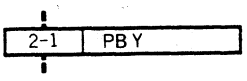
SECTION 4
DIAGRAMS AND CIRCUIT BOARDS

■ FOREWORD

1. Expression of connector

Connector is expressed in two ways.

1) The following illustrates 'CN2 pin 1' for example.



2) The following illustrates 'CN1 pins 1 and 2'.



2. Expression of wiring

As the following circuit diagram is divided to print on some sheets, such an indication as the following is found in the case the wiring extends over two or more divided sections.

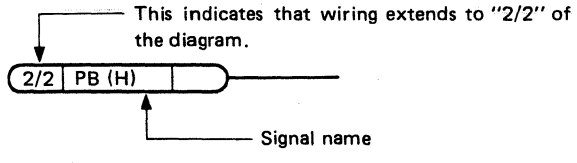
1) Circuit diagram divided into two or more sections:

Board No.	Board Name	Number of divided sections
02	MOTHER-2	2 (1/2 ~ 2/2)
10	REC/PB Y	2 (1/2 ~ 2/2)
12	REC/PB COLOR	2 (1/2 ~ 2/2)
19	OUTPUT	2 (1/2 ~ 2/2)
21	AUDIO-1	3 (1/3 ~ 3/3)
23	AUDIO-3	2 (1/2 ~ 2/2)
31	M CTL/REEL SERVO	2 (1/2 ~ 2/2)
51	VT (BR-S525E)	2 (1/2 ~ 2/2)
60	TBC-1 (BR-S525E)	4 (1/4 ~ 4/4)
61	TBC-2 (BR-S525E)	2 (1/2 ~ 2/2)
62	TBC-3 (BR-S525E)	3 (1/3 ~ 3/3)
—	OVERALL	2 (1/2 ~ 2/2)

2) Indication of wiring which extends to another section:

(Example)

On the "1/2" diagram of REC/PB Y board, such an indication as the following is found on the "PB (H)" signal line.



In the above case, the end of the wiring is connected to the "2/2-PB (H)" on the 2nd section of the diagram.

3. Wiring of connector

(Example)



In the above example, CN1 is connected with CN2 on 1 2 SYSCON board.

4. Signal flow on the diagram

The following arrow marks indicate the specified signal paths respectively.

⇨ : PLAYBACK signal path

5. Measurement of voltage and waveform

1) Voltage

Voltages are measured with a digital DC voltmeter in the playback mode unless otherwise specified.

Notes:

- "—" printed for voltage indicates points where instrumentation or voltage measurement is impossible.
- Voltages shown in different type face are AC values.

2) Waveform

Unless otherwise specified, all waveforms are playback waveform of the MHVE-2H alignment tape.

6. Unit of value

Unless otherwise specified:

1) Resistance is in Ω (1/6 W)
2) Capacitance in μF
3) Inductance in μH

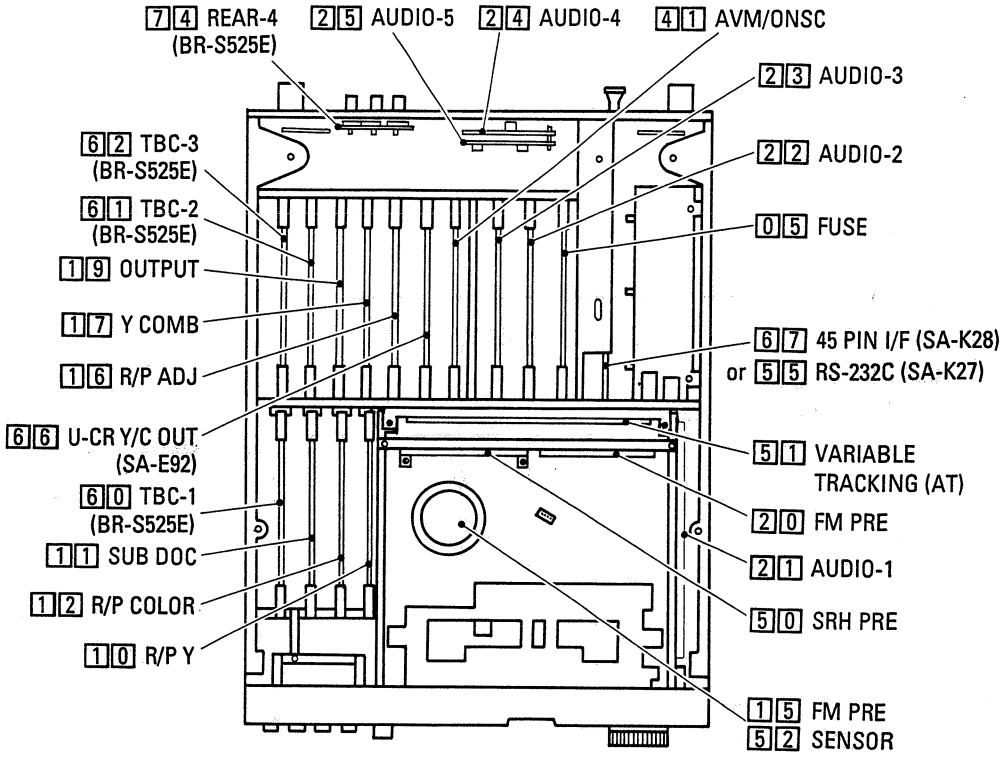
7. About circuit diagrams and P.C. board patterns

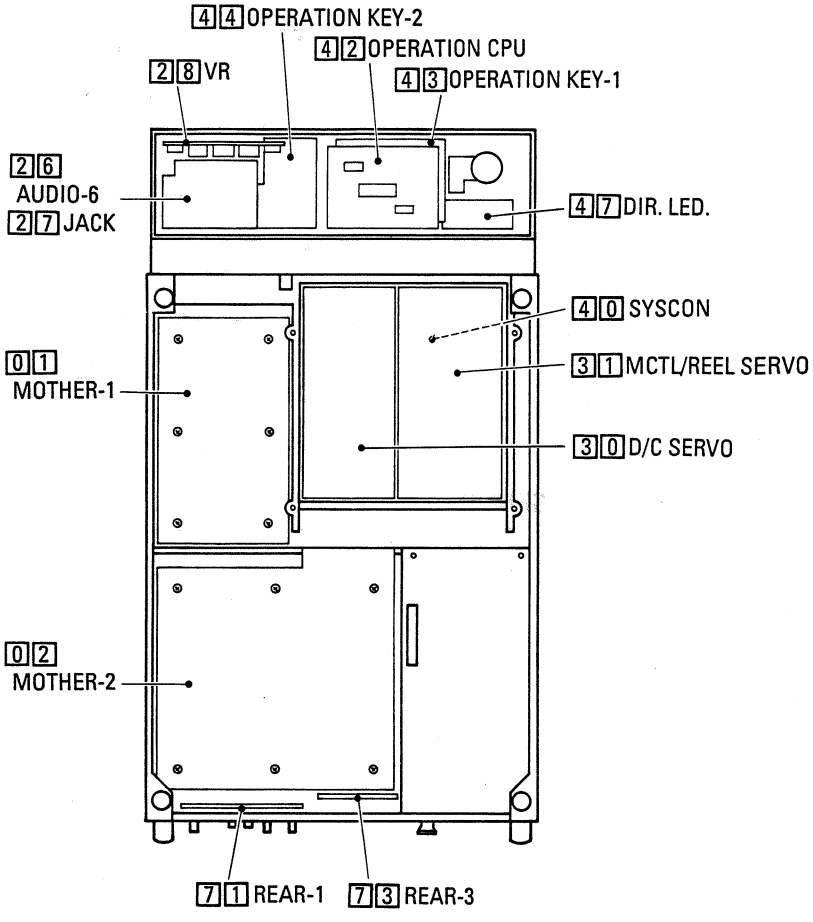
1) Unless otherwise specified, parts and blocks (block titles) in the circuit diagrams and the P.C. board patterns are used both in the BR-S525E and the BR-S522E in common.

4.1 CIRCUIT BOARD LOCATIONS

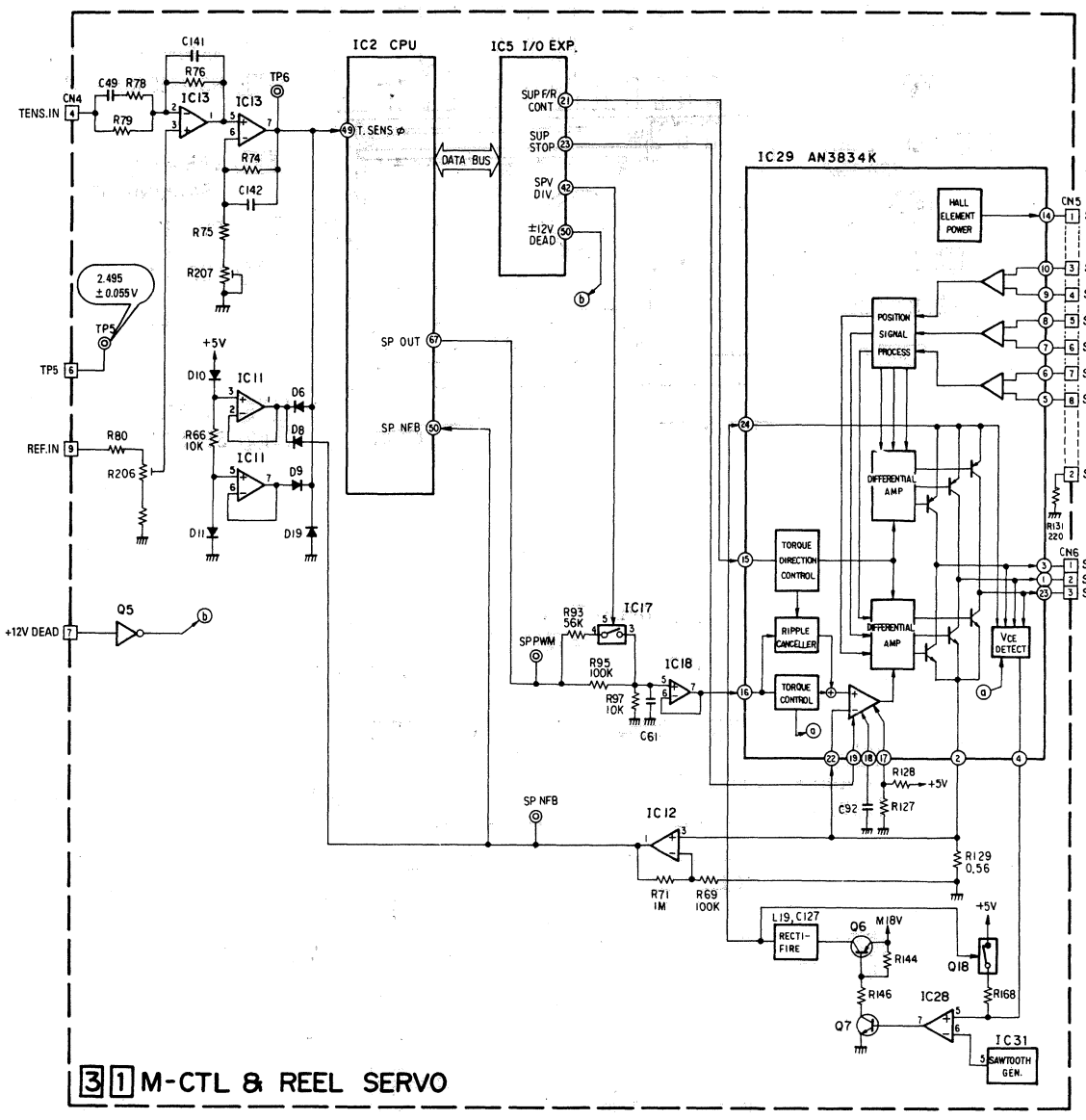
• Index to board by kind diagram

Board No.	Board Name	Page of diagram			
		Block diagram	Schematic diagram	Circuit board	Parts list
01	MOTHER-1	—	4-25	4-24	6-2
02	MOTHER-2	—	4-26, 27	4-28	6-2, 3
03	SLOT MOTHER	—	4-29	4-30	6-3
04	SYSCON MOTHER	—	4-29	4-30	6-3
05	FUSE	—	4-30	4-30	6-3, 4
10	REC/PB Y	4-5	4-32, 33	4-34, 37	6-4 ~ 11
11	REC/PB C	4-6	4-38, 39	4-40, 41	6-11 ~ 16
12	REC/PB C-2	4-7	4-42	4-43	6-16 ~ 20
15	PRE/REC AMP	4-11	4-46	4-46	6-20
16	R/P ADJUST	4-8	4-44	4-45	6-20 ~ 23
17	Y COMB	4-9	4-47	4-48, 49	6-23 ~ 28
19	OUTPUT	4-10	4-52, 53	4-50, 51	6-28 ~ 32
20	FMA PRE AMP	4-18	4-74	4-74	6-32, 33
21	AUDIO-1	4-19	4-82, 83	4-84	6-34 ~ 37
22	AUDIO-2	4-19	4-86	4-85	6-37 ~ 39
23	AUDIO-3	4-18	4-88, 89	4-87	6-39 ~ 42
24	AUDIO-4 } XLR	4-19	4-90	4-91	6-42
25	AUDIO-5 } XLR	4-19	4-90	4-91	6-42 ~ 44
26	AUDIO-6 (27 JACK, 28 VR INC.)	4-18, 19	4-92	4-91	6-44 ~ 46
29	A/C HEAD	—	—	4-91	6-46, 47
30	D/C SERVO	4-21	4-93	4-94	6-47 ~ 50
31	M-CTL/REEL SERVO	4-4	4-96, 97	4-95	6-50 ~ 54
40	SYSCON	4-20	4-98	4-99	6-54 ~ 56
41	AV MICOM/ON SCREEN	4-17	4-100	4-101	6-56 ~ 58
42	OPERATION (43, 44, 46, 47, INC.)	—	4-102	4-103	6-58 ~ 61
45	COUNTER DISPLAY	—	4-102	4-101	6-61
50	SEARCH PRE	4-11	4-77	4-76	6-61 ~ 63
51	VARIABLE TRACKING (AT)	4-11	4-78, 79	4-80, 81	6-63 ~ 67
52	SENSOR	4-11	4-75	4-76	6-68
60	TBC-1	4-12, 13	4-54 ~ 57	4-58, 59	6-68 ~ 76
61	TBC-2	4-15	4-64, 65	4-66, 67	6-76 ~ 82
62	TBC-3	4-16	4-68 ~ 70	4-71, 72	6-82 ~ 87
63	DNR	4-14	4-60 ~ 62	4-63	6-87 ~ 89
71	REAR-1 (72 -2, 73 -3, INC.)	4-19	4-104	4-104	6-89, 90
74	REAR-4	—	4-73	4-73	6-90, 91
80	METER	4-19	4-105	4-105	6-91
81	METER SW	4-19	4-105	4-105	6-91
83	SUB PANEL	—	4-105	4-105	6-91, 92
91	DECK TERMINAL 1	—	4-31	4-31	6-92, 93

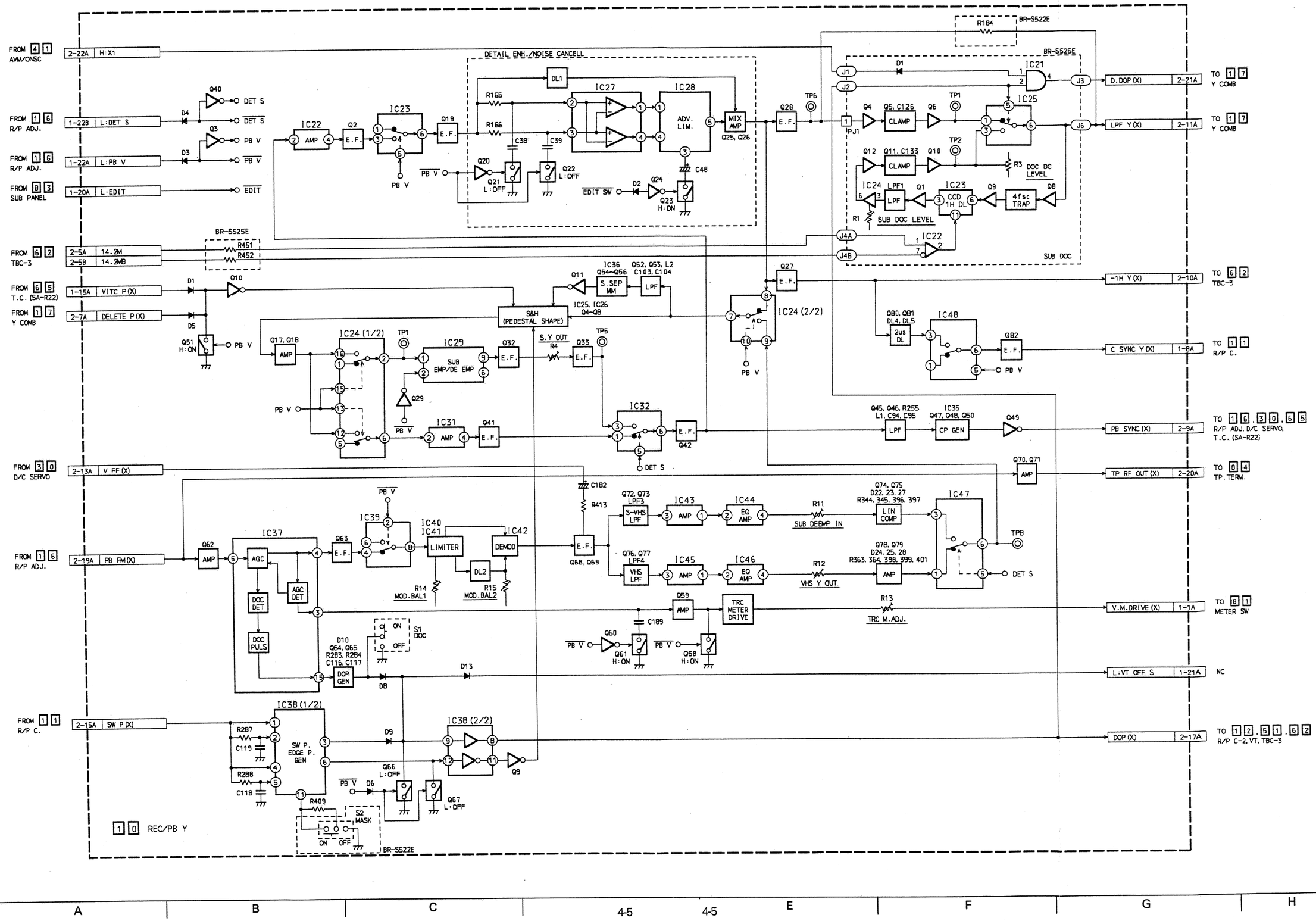

74 REAR-4 (BR-S525E)
25 AUDIO-5
24 AUDIO-4
41 AVM/ONSC
23 AUDIO-3
62 TBC-3 (BR-S525E)
61 TBC-2 (BR-S525E)
22 AUDIO-2
05 FUSE
19 OUTPUT
17 Y COMB
67 45 PIN I/F (SA-K28)
or 55 RS-232C (SA-K27)
16 R/P ADJ
66 U-CR Y/C OUT (SA-E92)
51 VARIABLE TRACKING (AT)
60 TBC-1 (BR-S525E)
20 FM PRE
11 SUB DOC
21 AUDIO-1
12 R/P COLOR
50 SRH PRE
10 R/P Y
15 FM PRE
52 SENSOR


44 OPERATION KEY-2
42 OPERATION CPU
28 VR
43 OPERATION KEY-1
26 AUDIO-6
27 JACK
47 DIR. LED.
40 SYSCON
01 MOTHER-1
31 MCTL/REEL SERVO
30 D/C SERVO
02 MOTHER-2
71 REAR-1
73 REAR-3

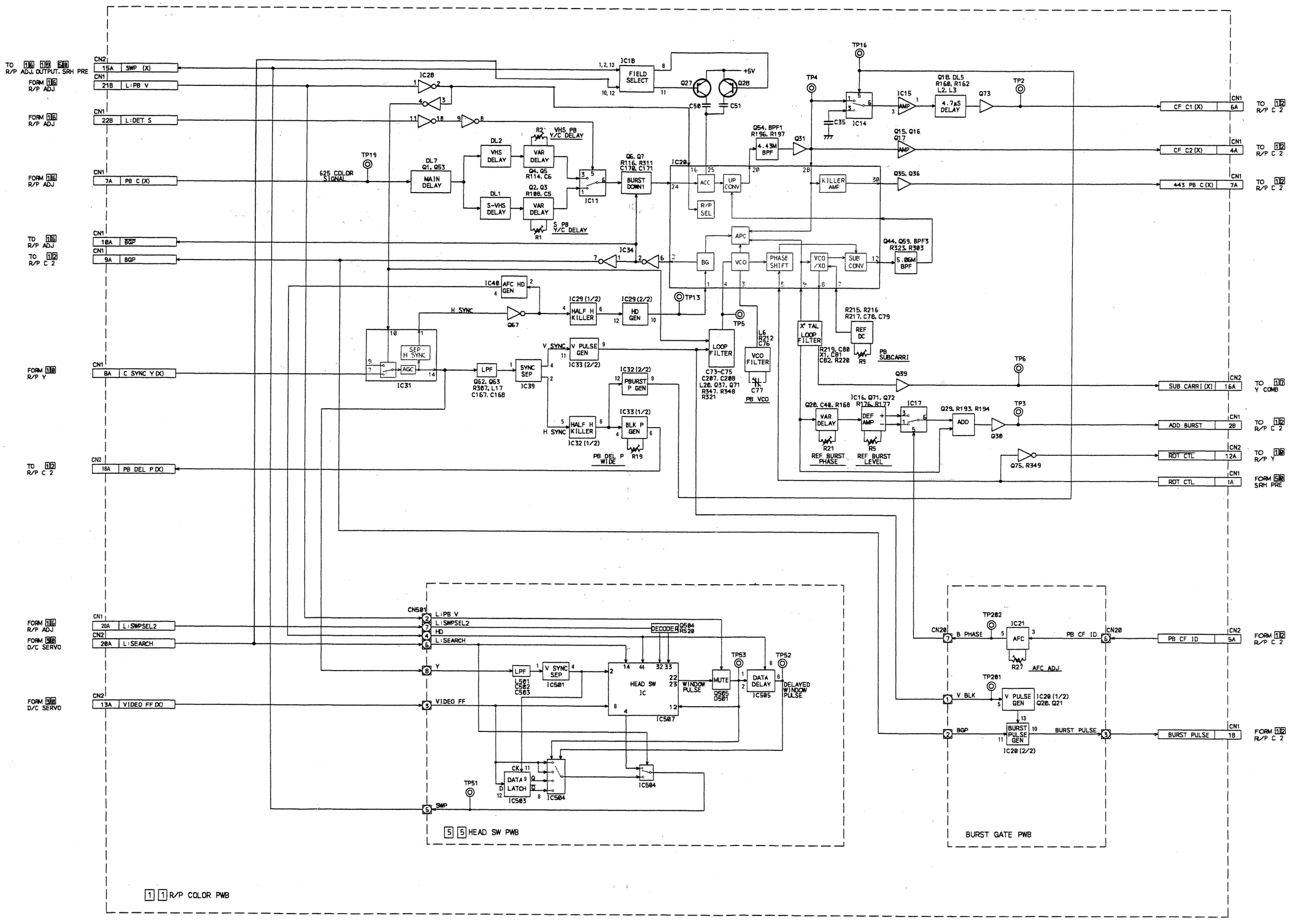
4.2 M-CTL & REEL SERVO BLOCK DIAGRAM



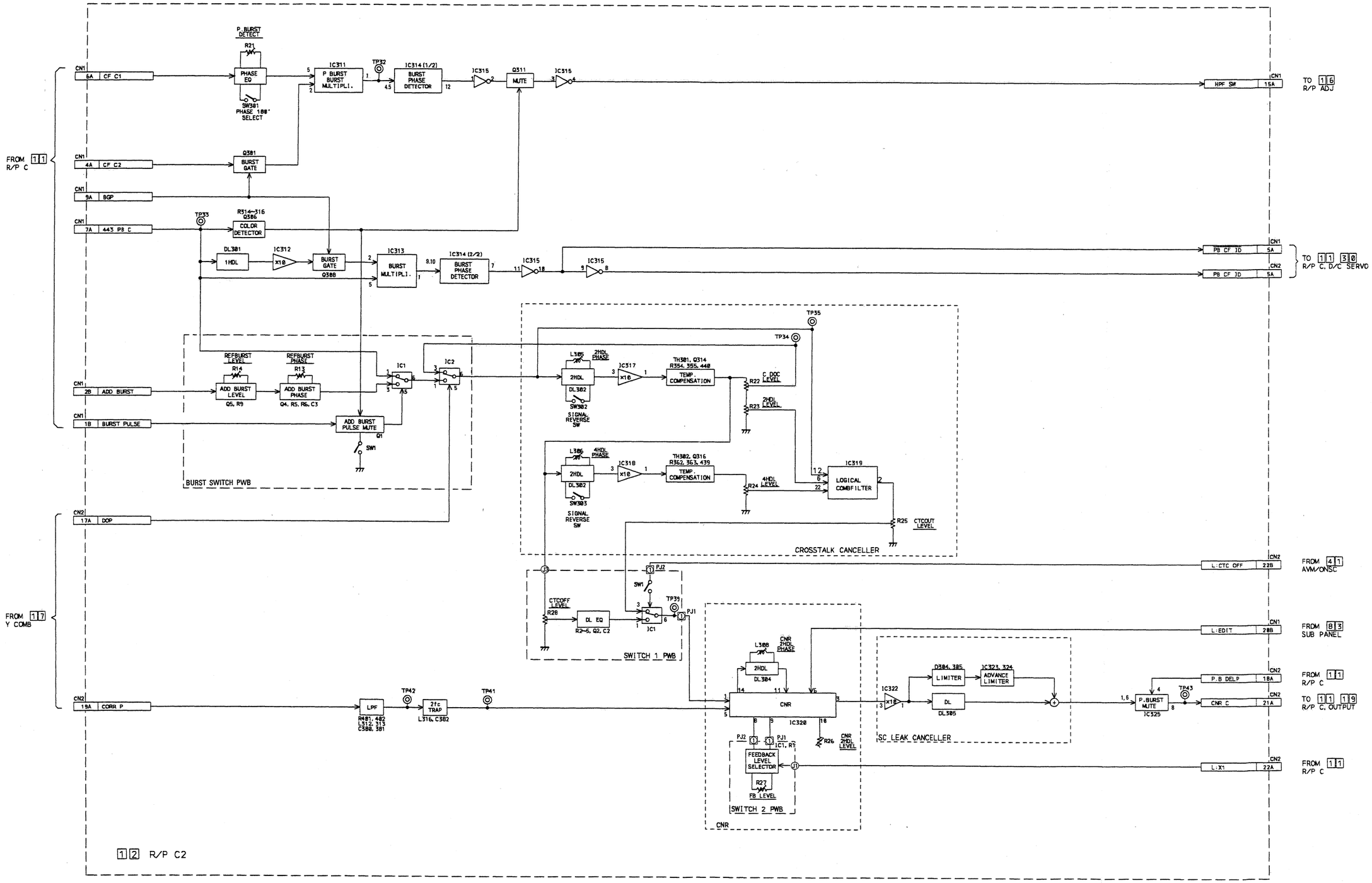
4.3 REC/PB Y BLOCK DIAGRAM



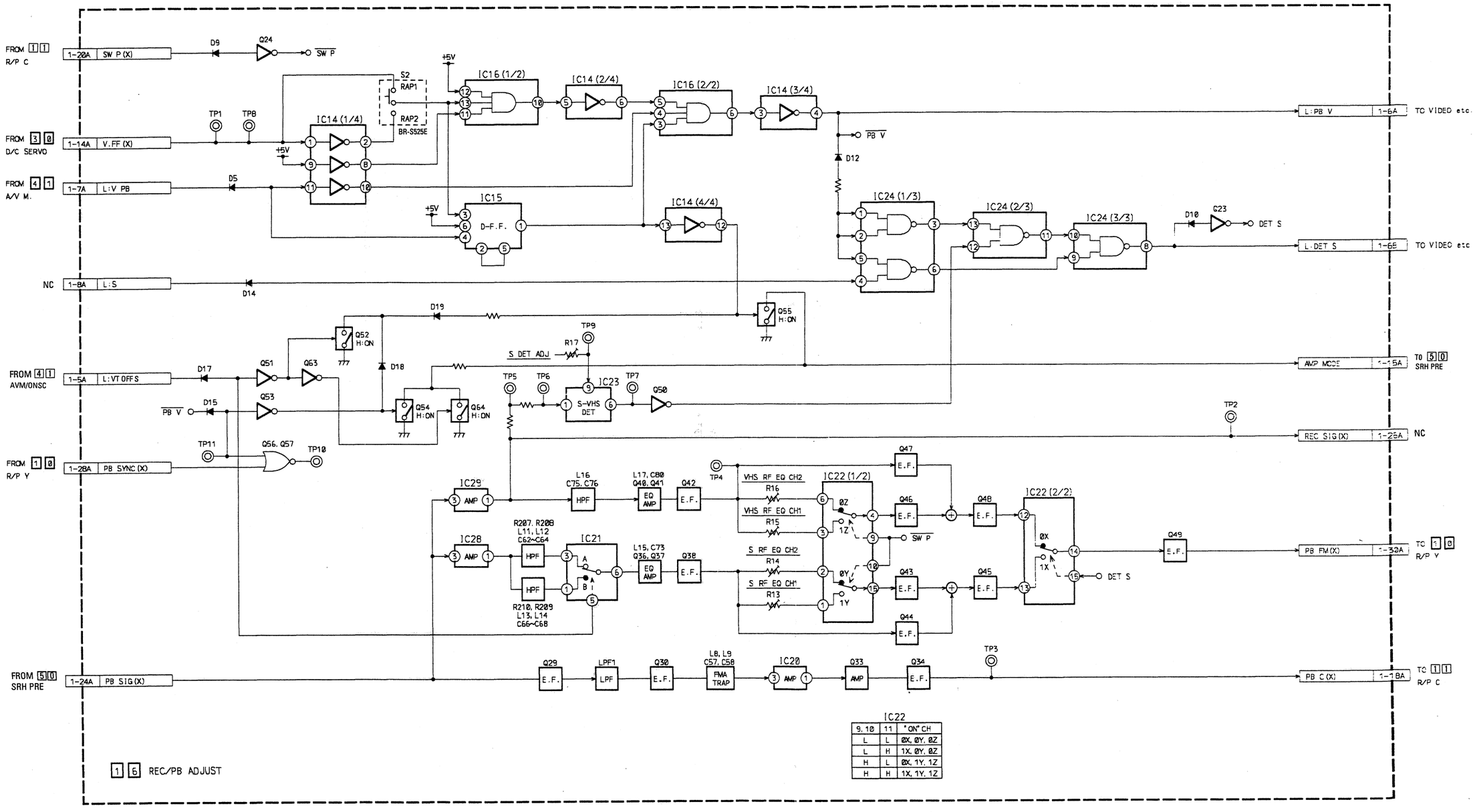
4.4 REC/PB COLOR BLOCK DIAGRAM



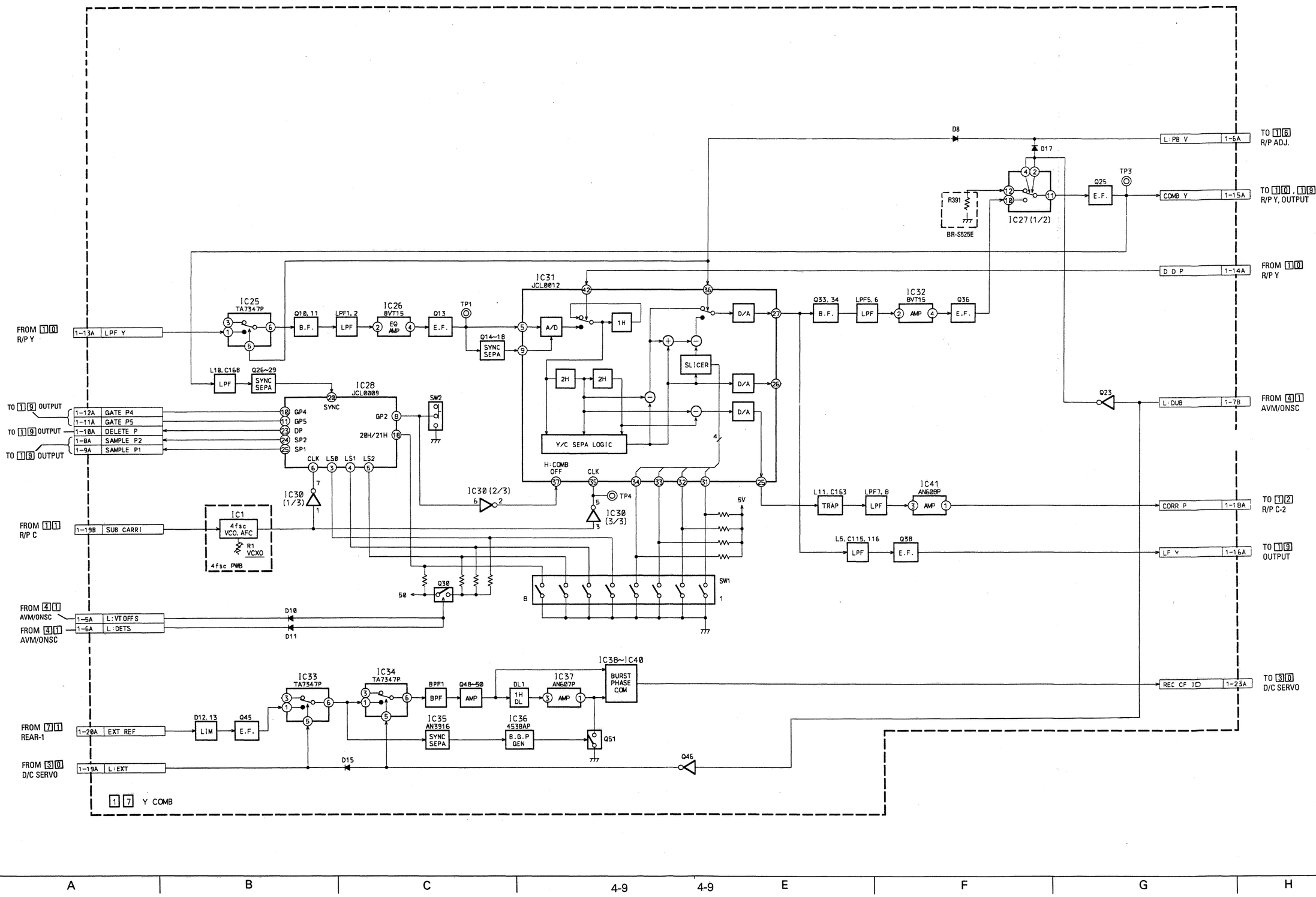
4.5 REC/PB COLOR-2 BLOCK DIAGRAM



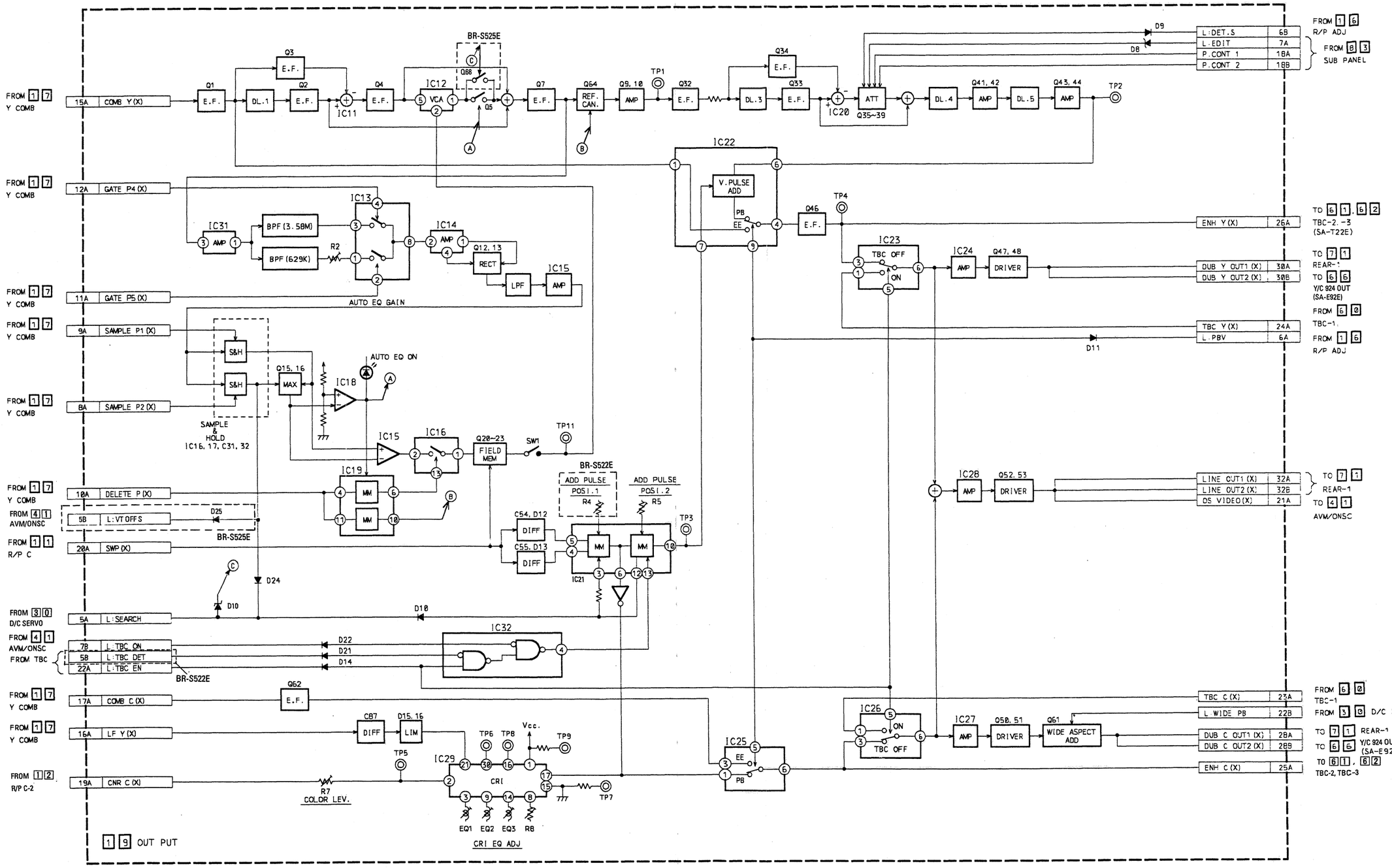
4.6 REC/PB ADJUST BLOCK DIAGRAM



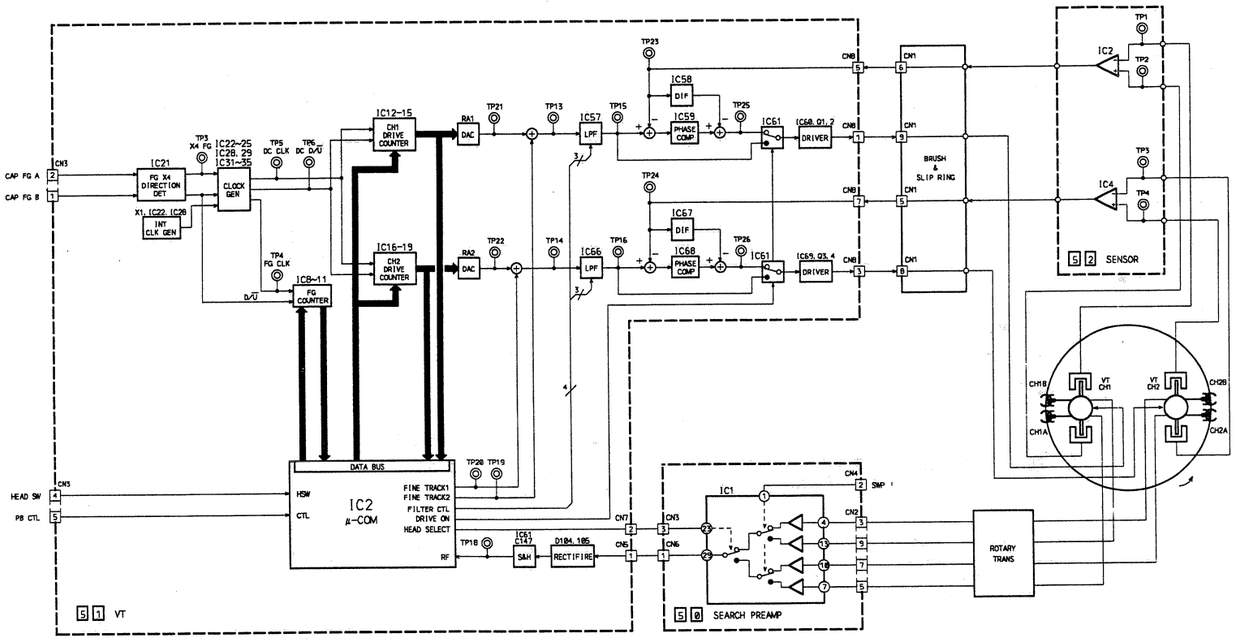
4.7 Y COMB BLOCK DIAGRAM



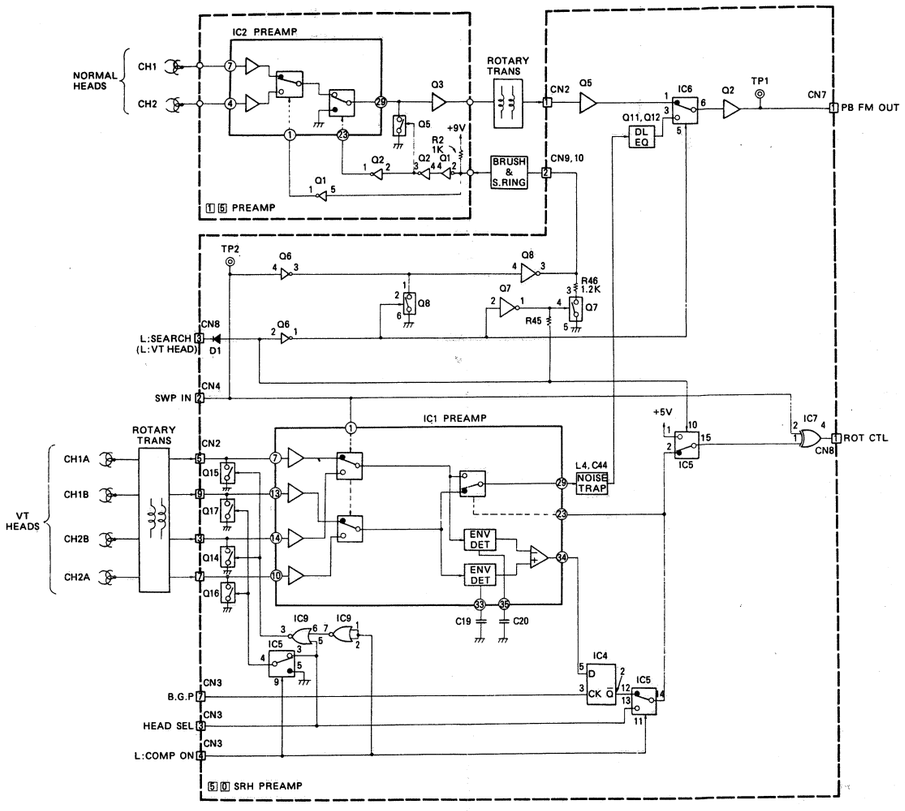
4.8 OUTPUT BLOCK DIAGRAM



4.9 VARIABLE TRACKING (AT) BLOCK DIAGRAM (BR-S525E)

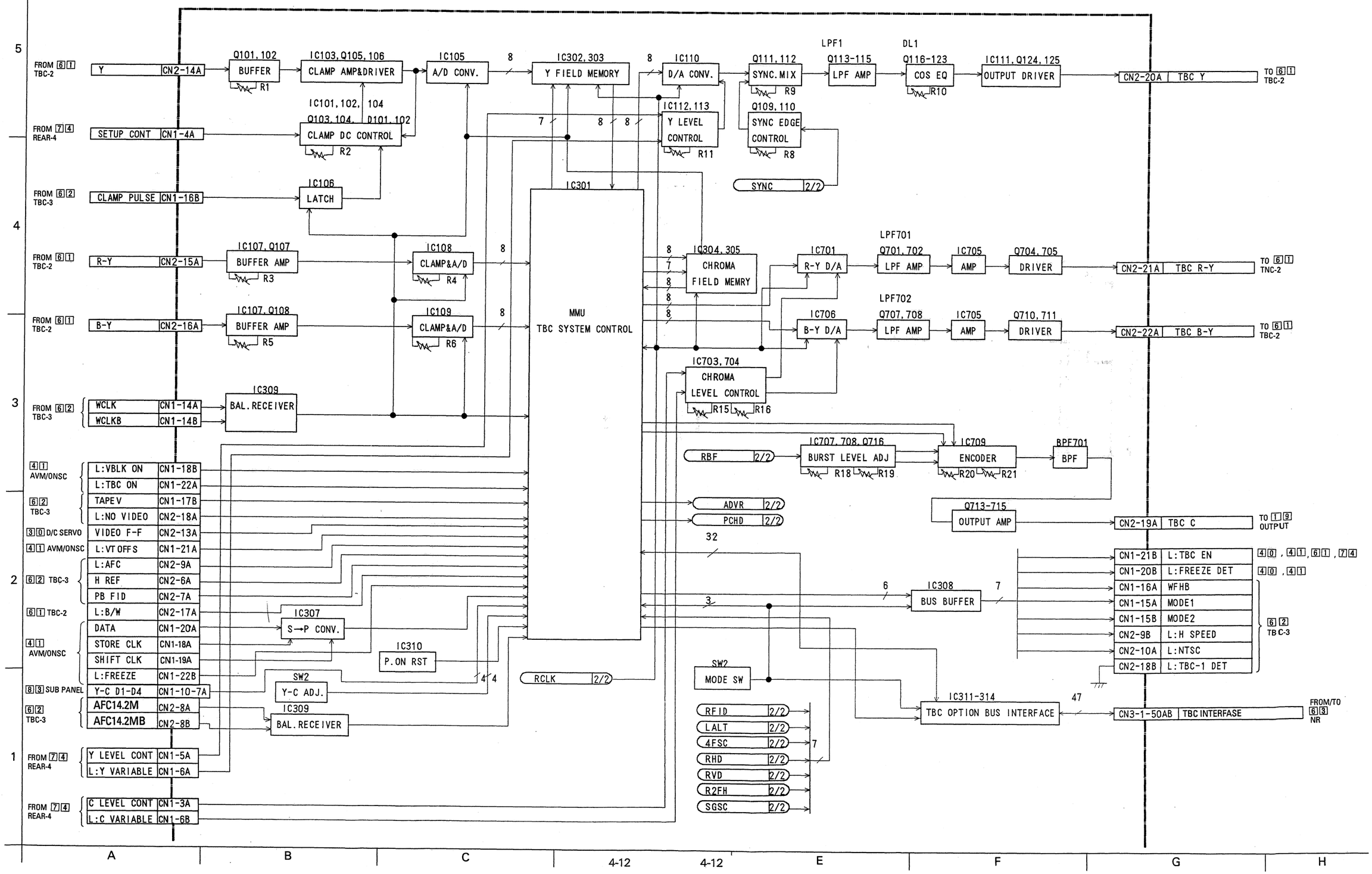


4.10 PRE AMP BLOCK DIAGRAM (BR-S525E)

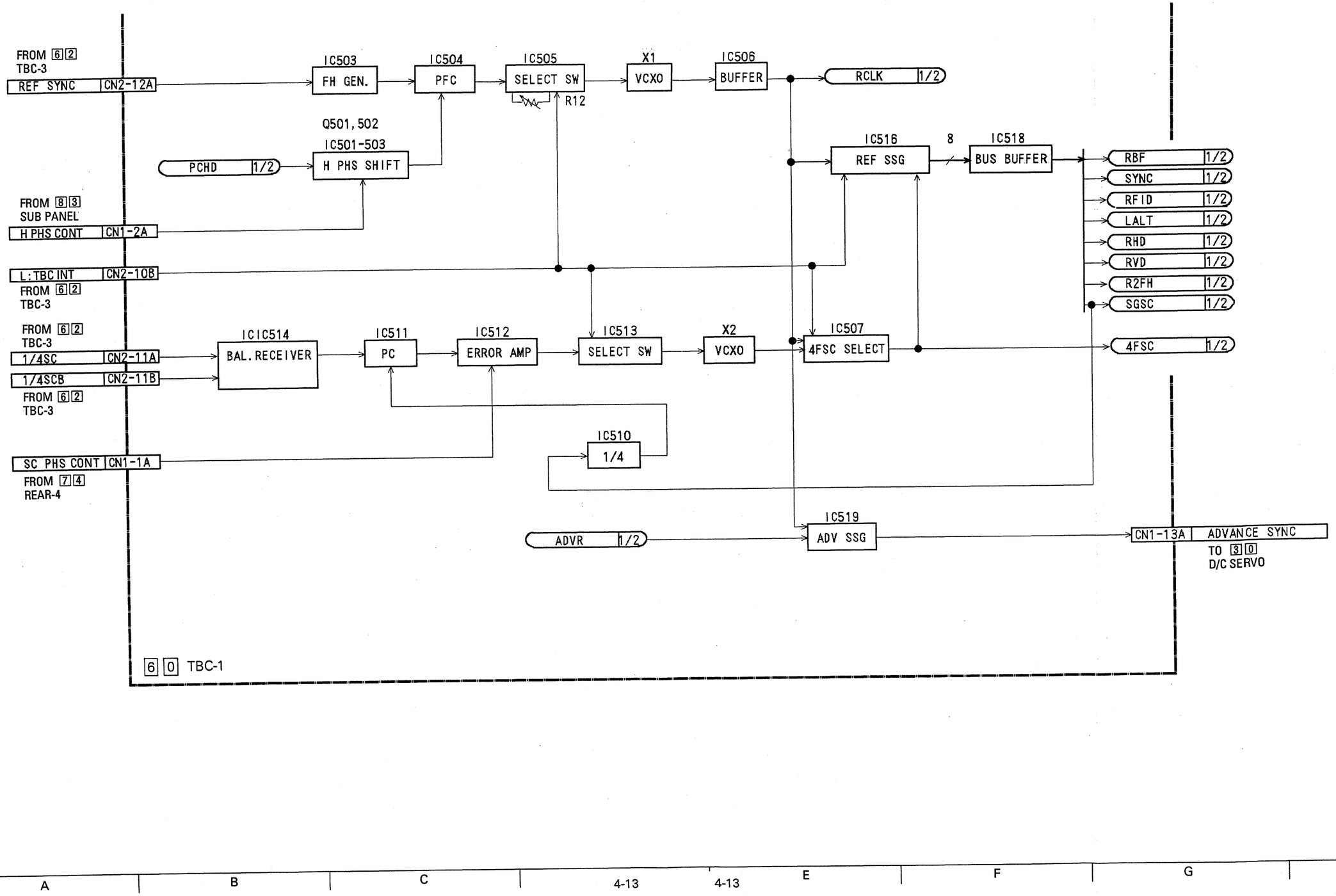


4.11 TBC-1 BLOCK DIAGRAM (BR-S525E)

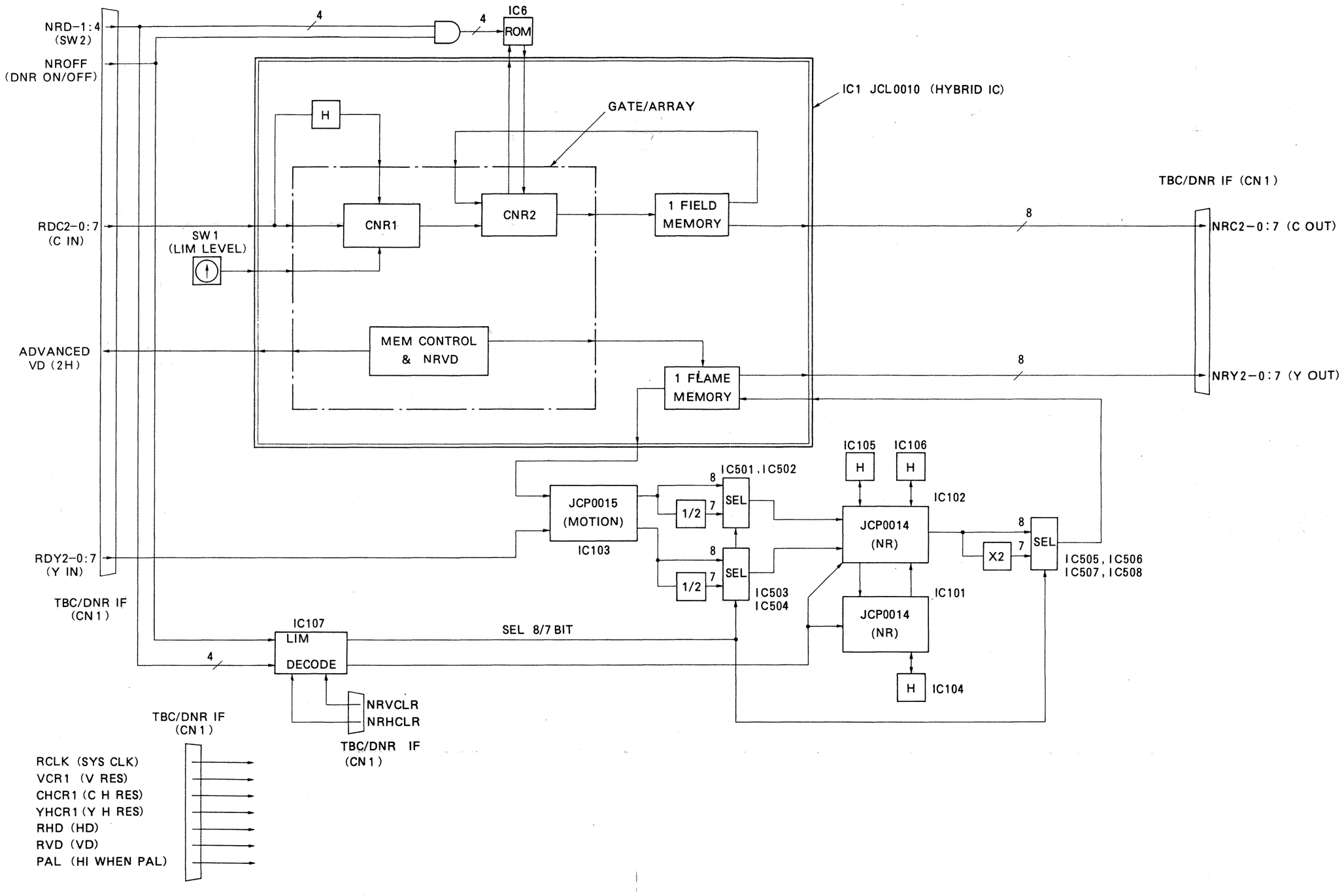
— DIAGRAM (1/2) —



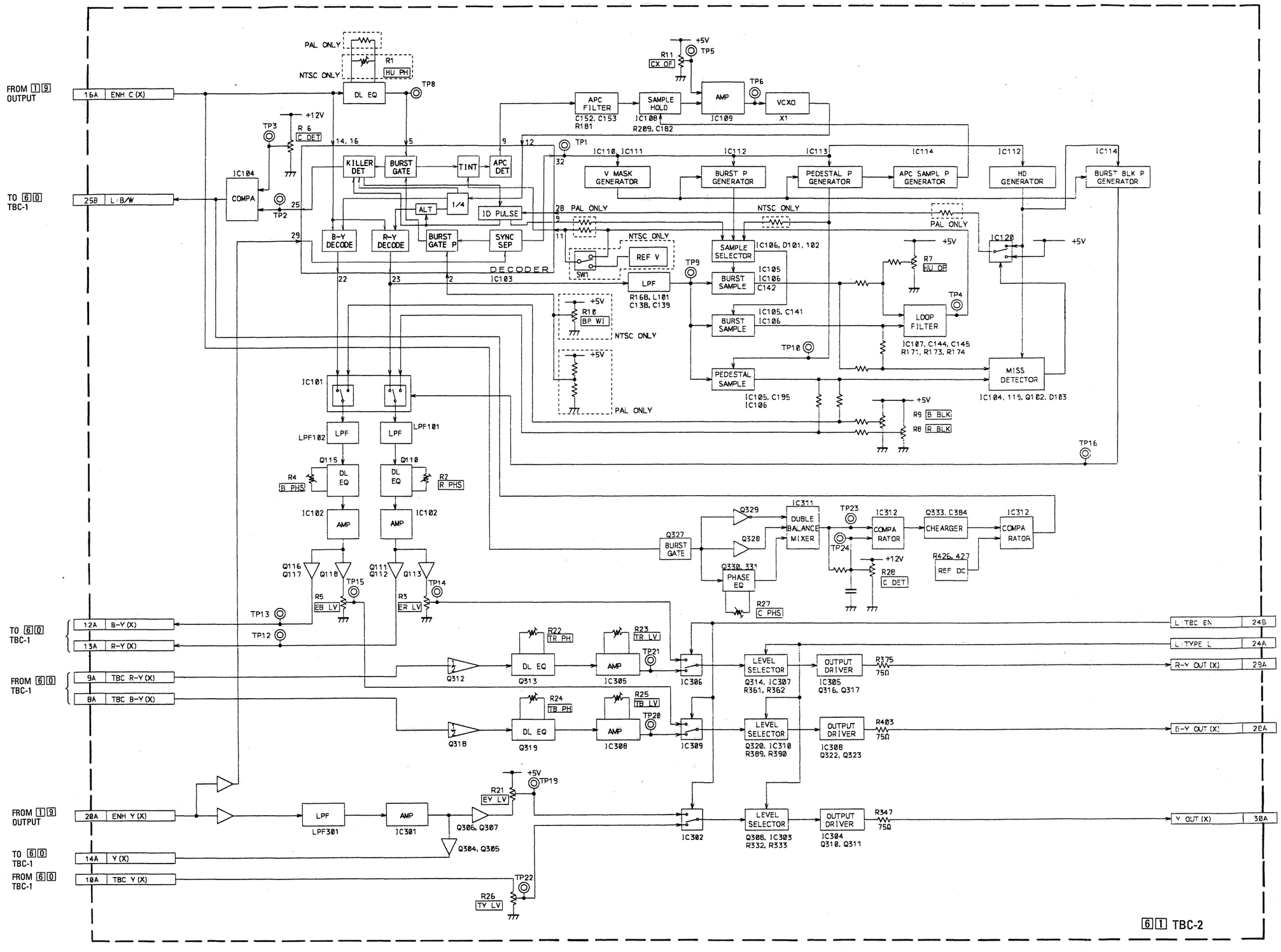
— DIAGRAM (2/2) —


FROM 6 2
TBC-3
REF SYNC
CN2-12A
IC503
FH GEN.
IC504
PFC
IC505
SELECT SW
R12
X1
VCXO
IC506
BUFFER
RCLK 1/2
Q501, 502
IC501-503
PCHD 1/2
H PHS SHIFT
IC516
REF SSG
8
IC518
BUS BUFFER
RBF 1/2
SYNC 1/2
RFID 1/2
LALT 1/2
RHD 1/2
RVD 1/2
R2FH 1/2
SGSC 1/2
FROM 8 3
SUB PANEL
H PHS CONT
CN1-2A
L: TBC INT
CN2-10B
FROM 6 2
TBC-3
FROM 6 2
TBC-3
1/4SC
CN2-11A
1/4SCB
CN2-11B
FROM 6 2
TBC-3
IC IC514
BAL. RECEIVER
IC511
PC
IC512
ERROR AMP
IC513
SELECT SW
X2
VCXO
IC507
4FSC SELECT
4FSC 1/2
IC510
1/4
SC PHS CONT
CN1-1A
FROM 7 4
REAR-4
IC519
ADV SSG
ADVR 1/2
CN1-13A
ADVANCE SYNC
TO 3 0
D/C SERVO
6 0 TBC-1

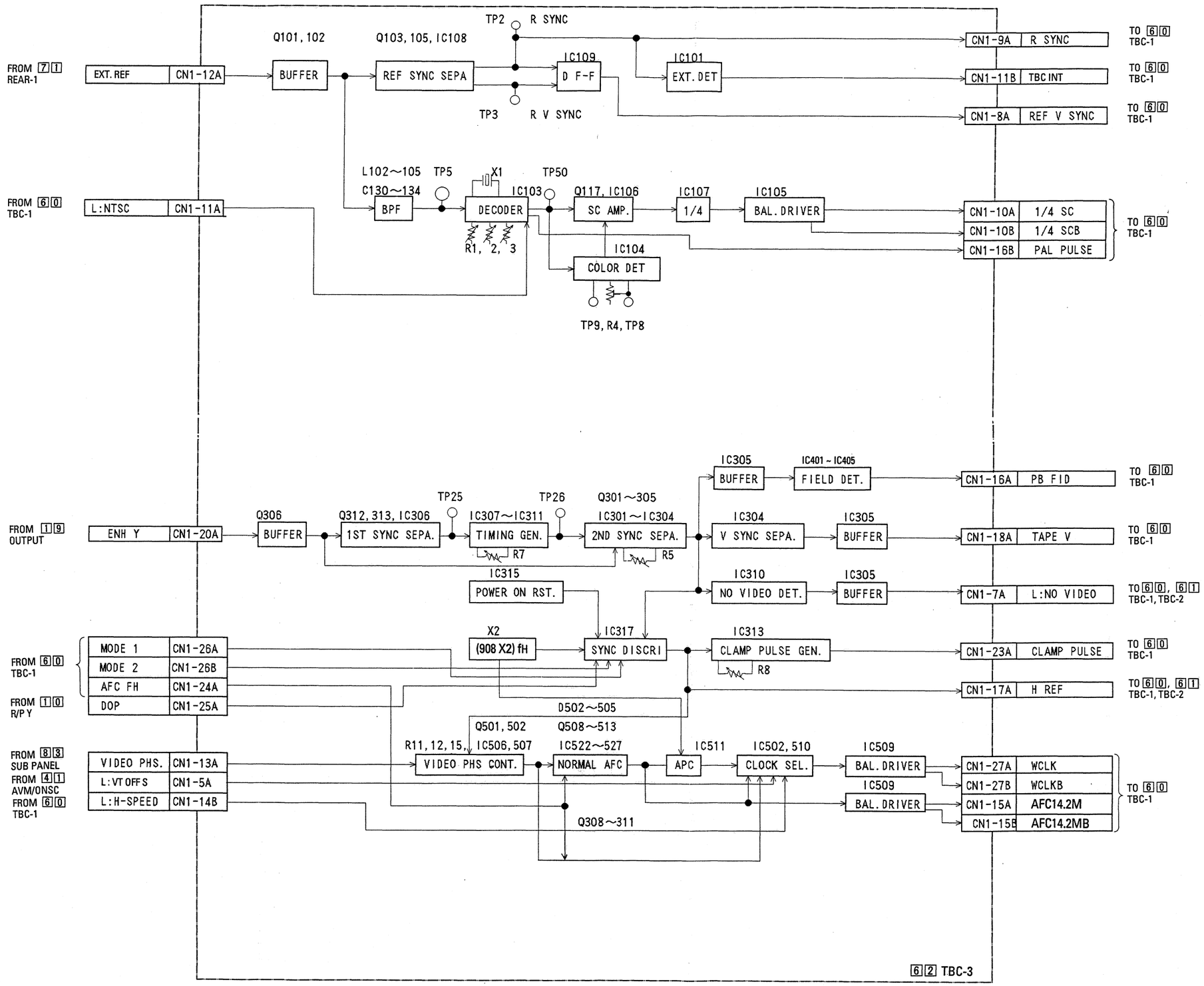
4.12 DNR BLOCK DIAGRAM (BR-S525E)



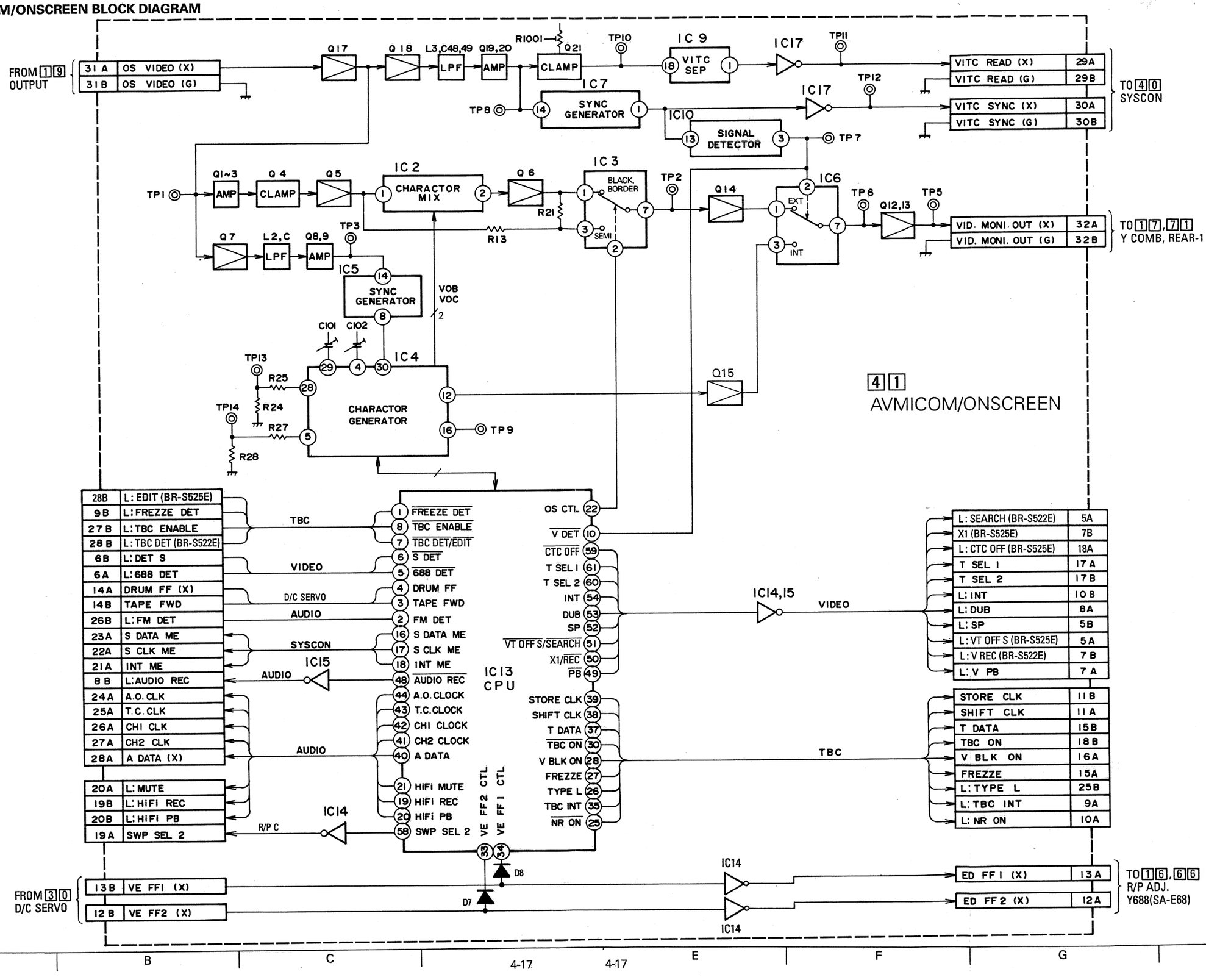
4.13 TBC-2 BLOCK DIAGRAM (BR-S525E)



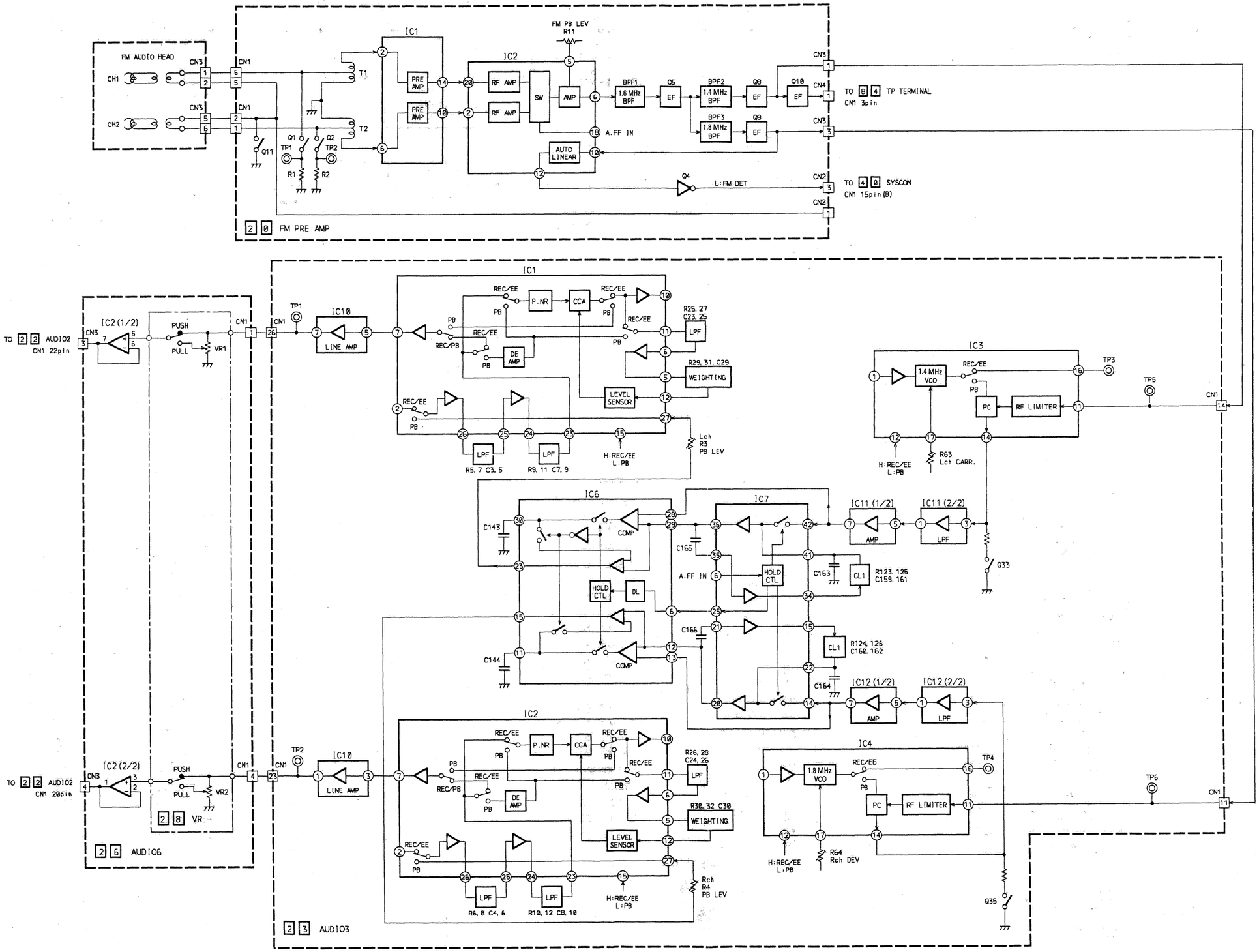
4.14 TBC-3 BLOCK DIAGRAM (BR-S525E)



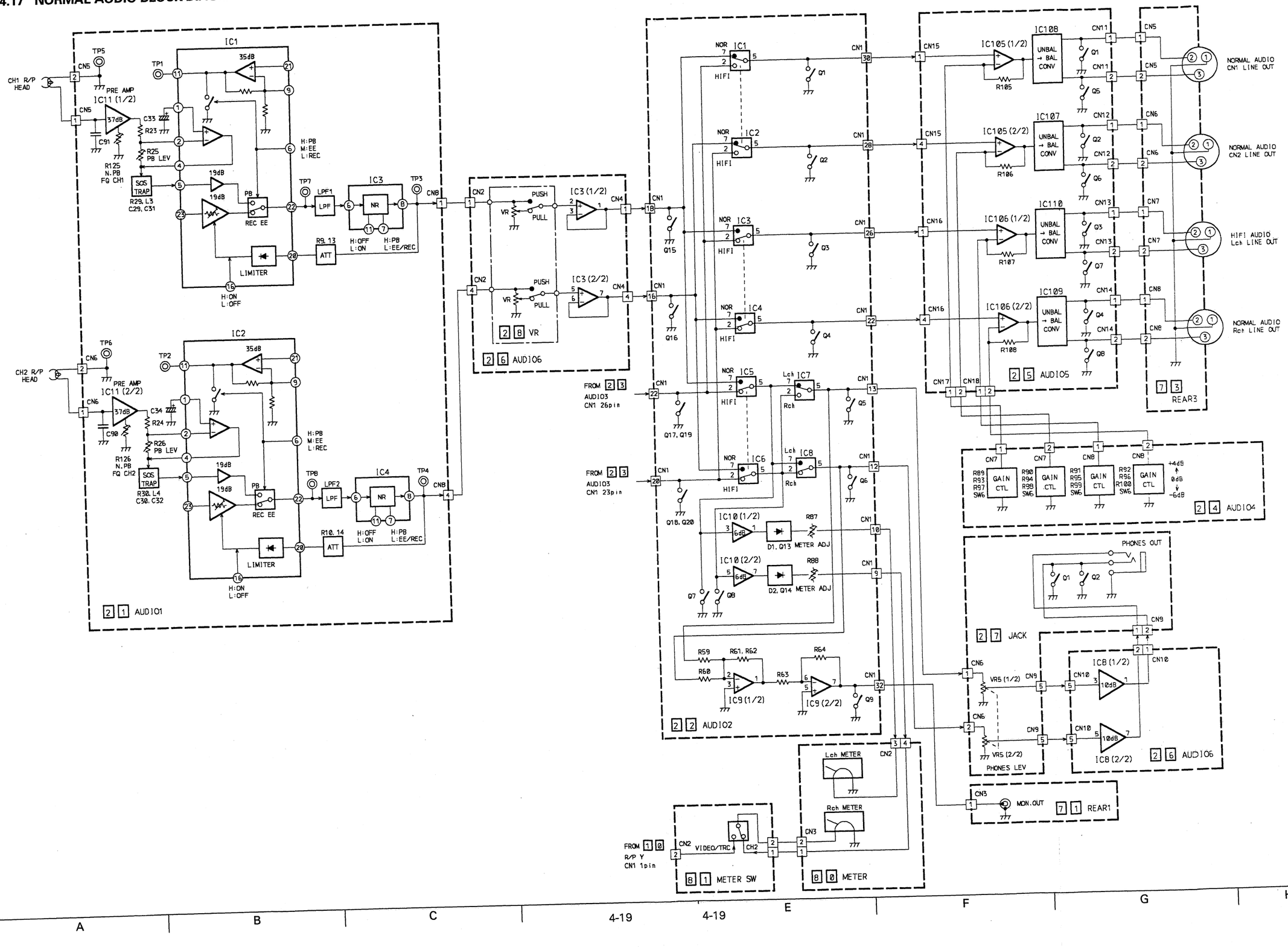
4.15 AV MICOM/ONSCREEN BLOCK DIAGRAM



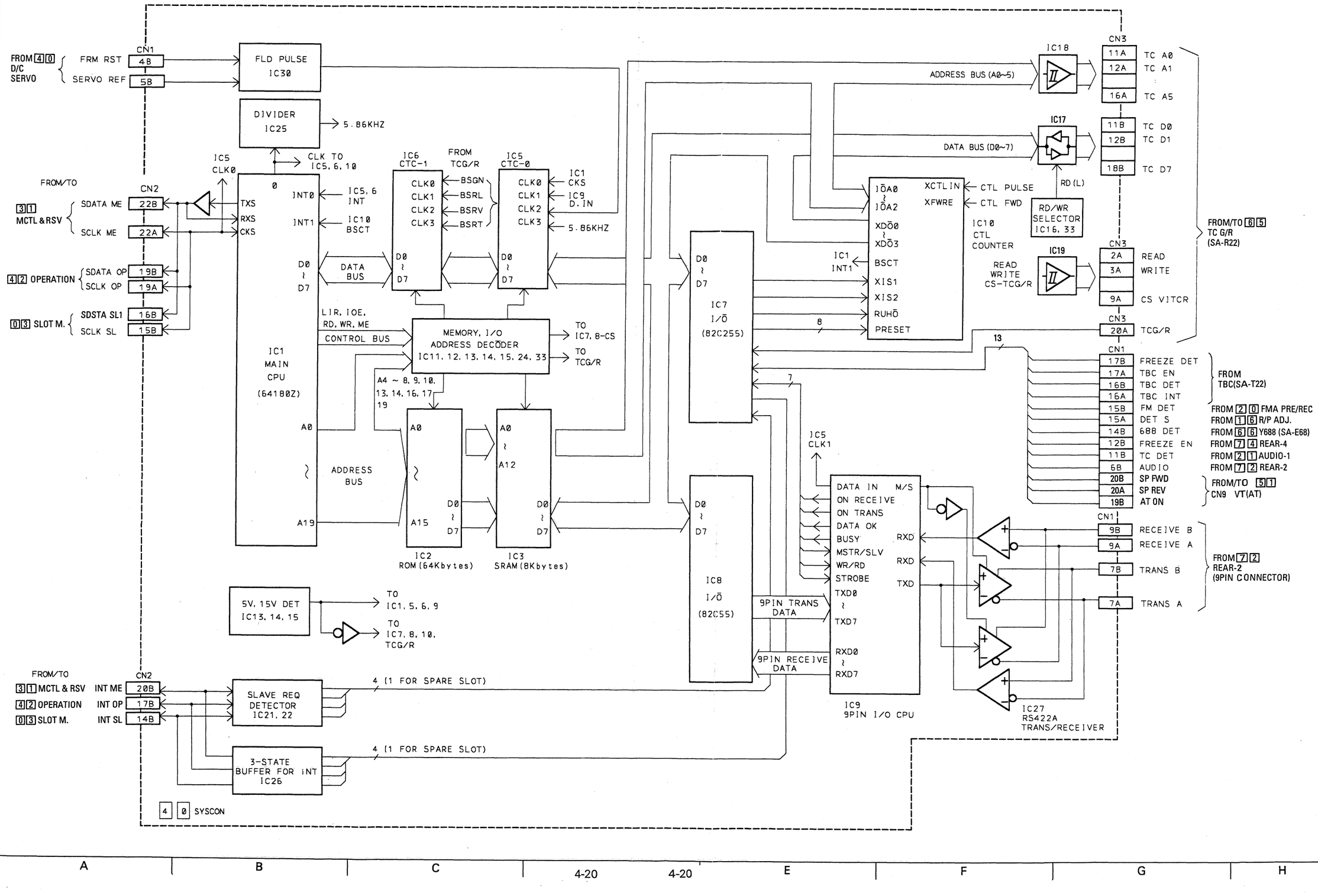
4.16 HiFi AUDIO BLOCK DIAGRAM



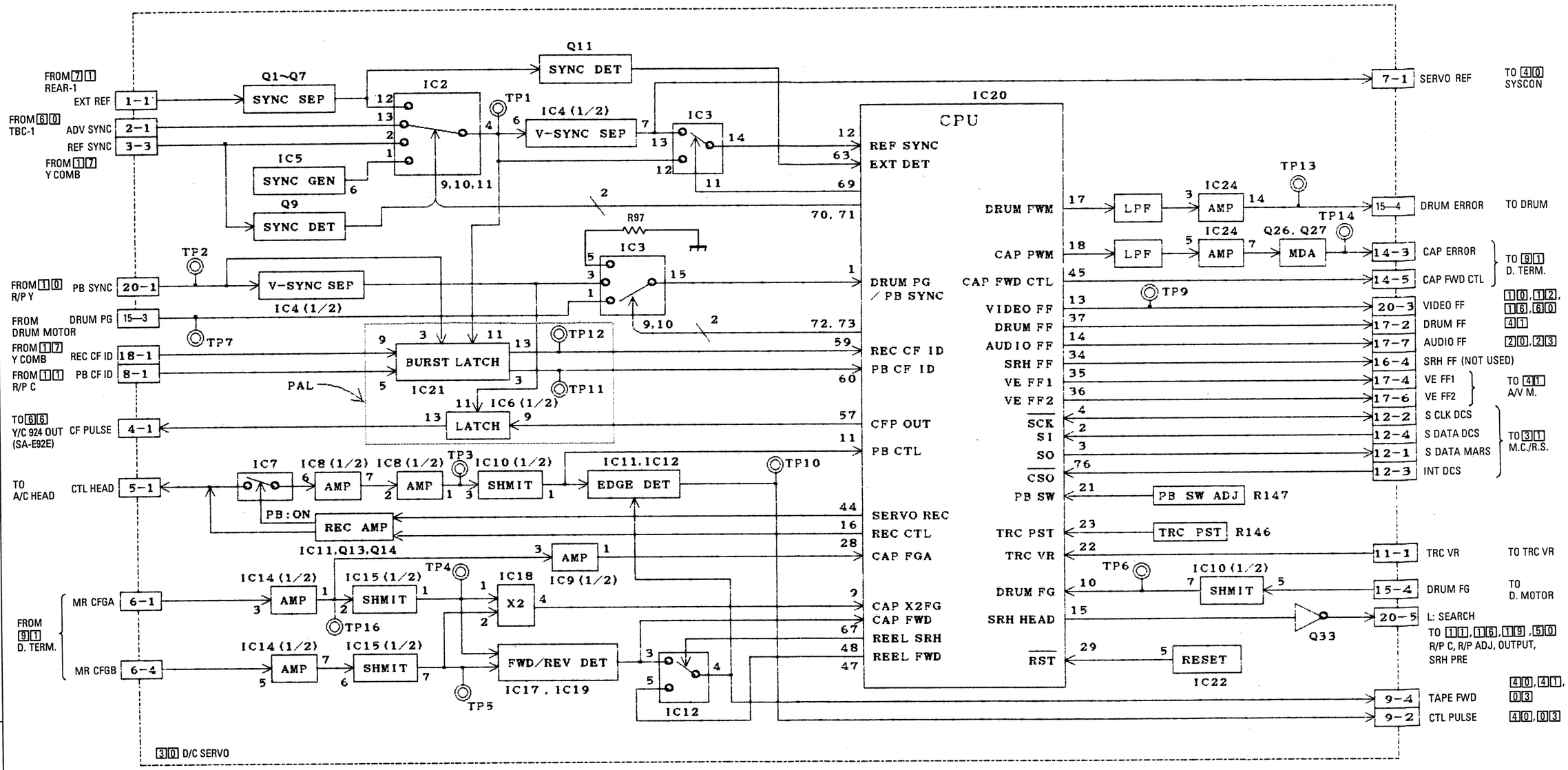
4.17 NORMAL AUDIO BLOCK DIAGRAM



4.18 SYSCON BLOCK DIAGRAM

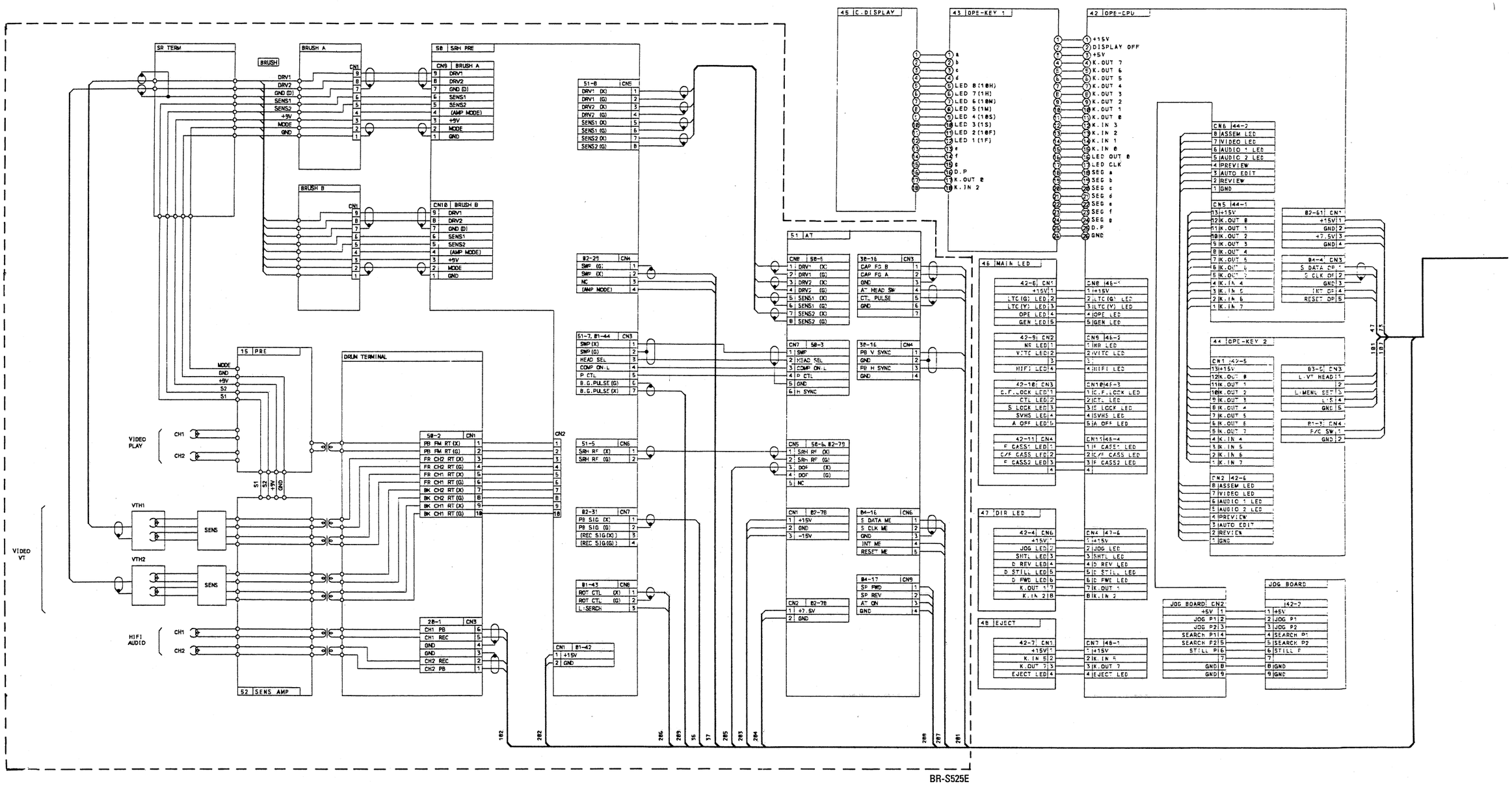


4.19 DRUM/CAPSTAN SERVO BLOCK DIAGRAM

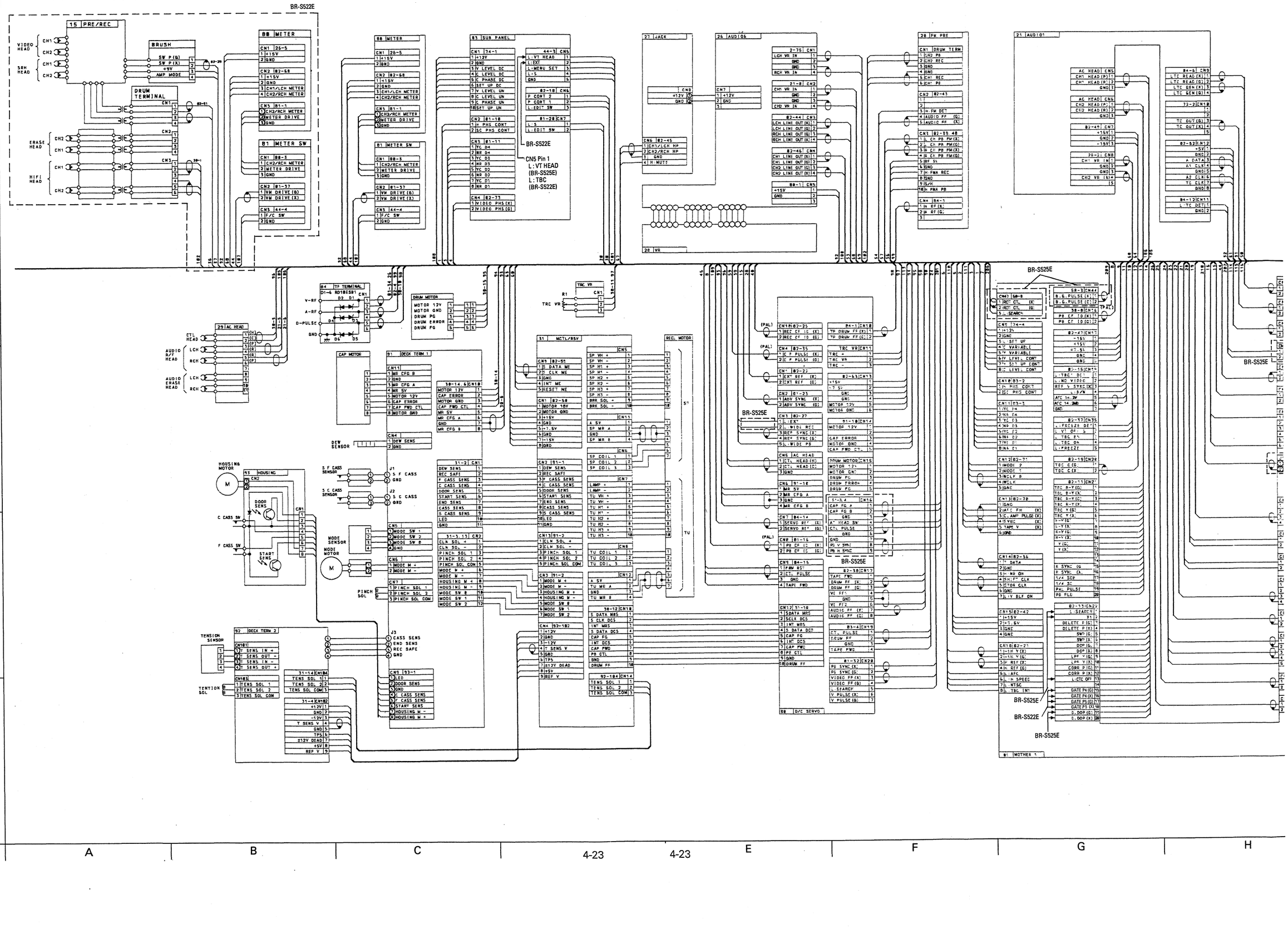


4.20 OVERALL WIRING DIAGRAM

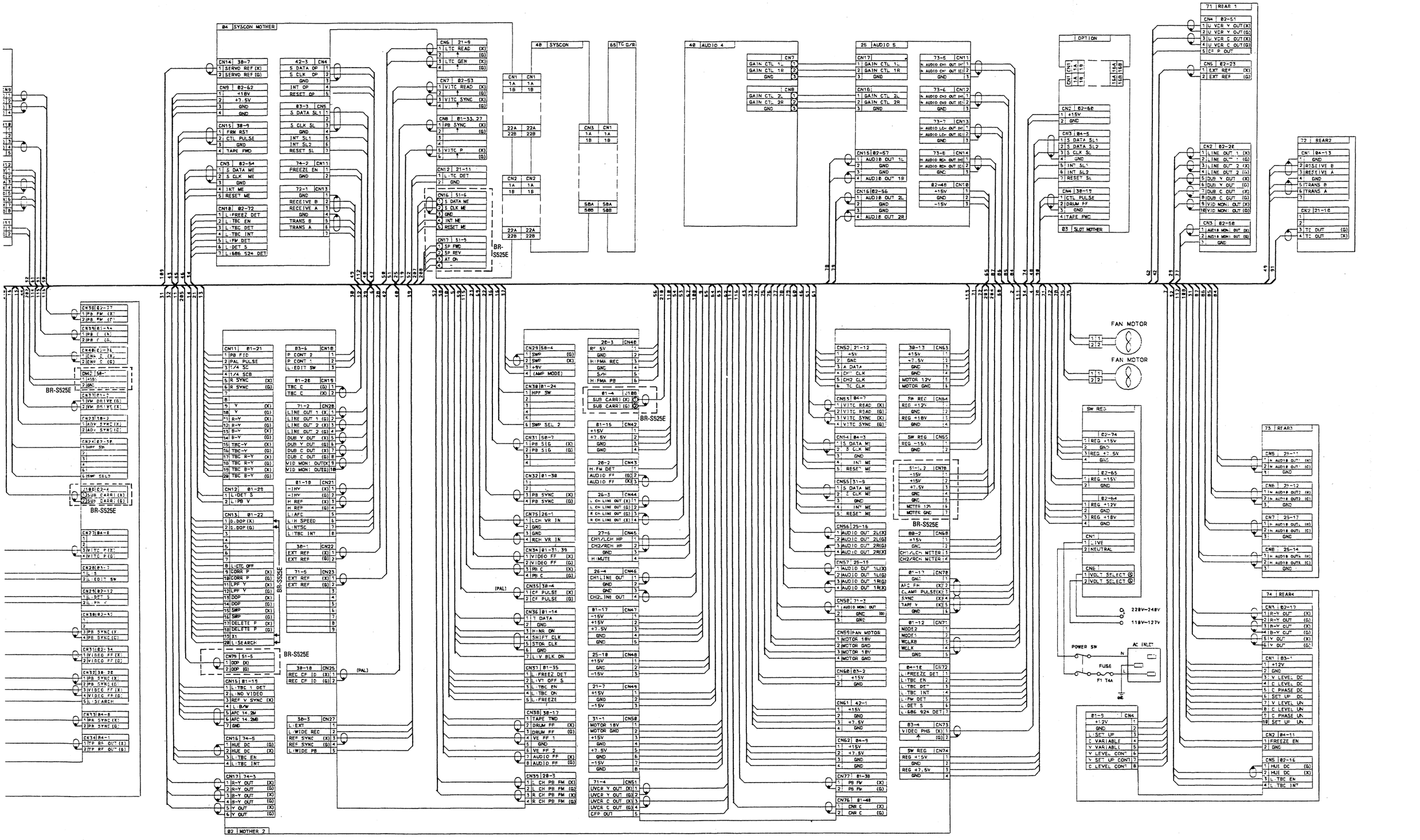
— DIAGRAM (1/2) —



— DIAGRAM (2/2) —



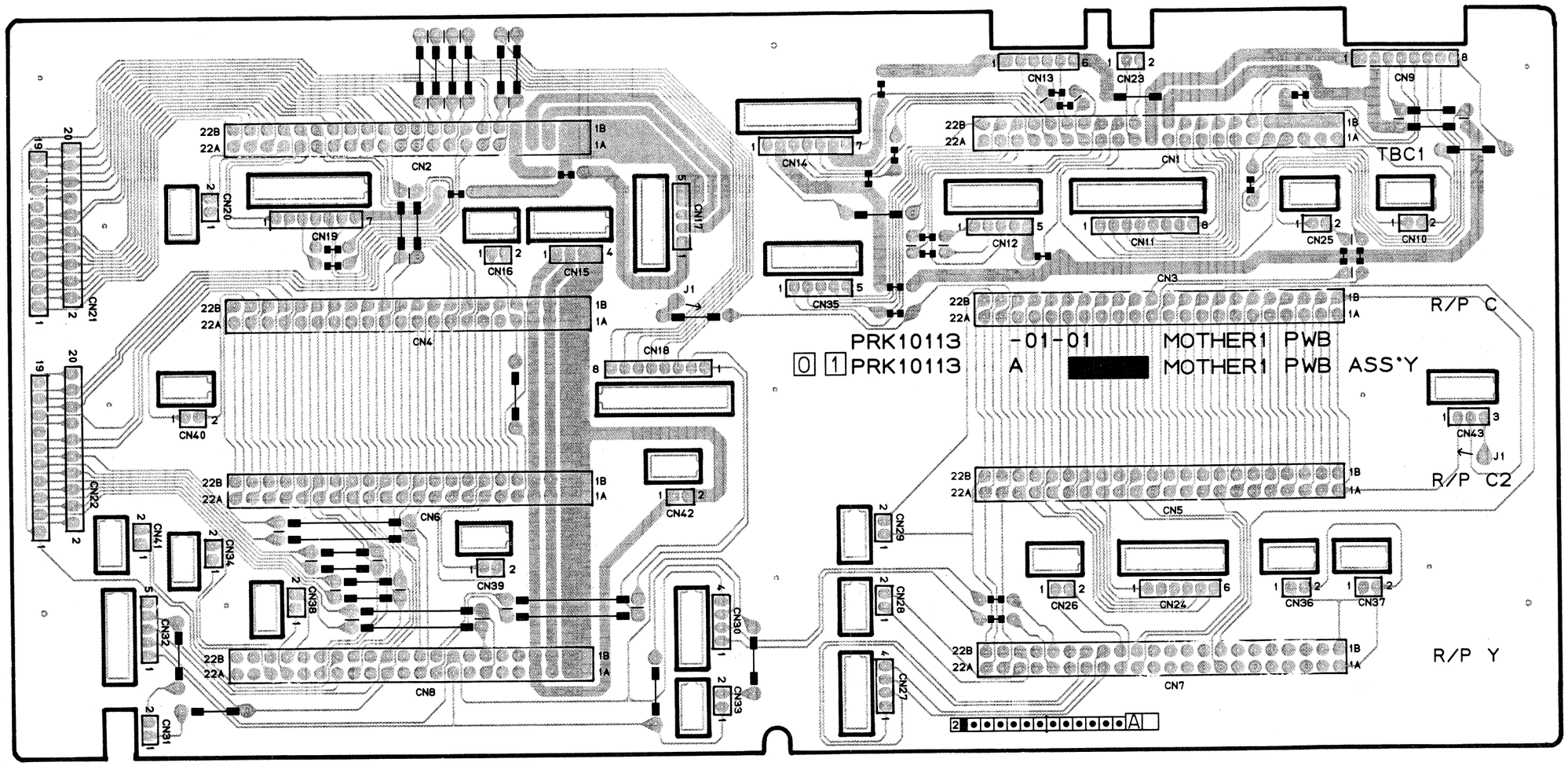
4-23


84 SYSCON MOTHER
CN14 38-7
1 SERVO REF (X)
2 SERVO REF (G)
CN9 82-62
1 +18V
2 +7.5V
3 GND
4 GND
CN15 38-9
1 FRM RST
2 CTL PULSE
3 GND
4 TAPE FWD
CN3 82-54
1 S DATA ME
2 S CLK ME
3 GND
4 INT ME
5 RESET ME
CN18 82-72
1 L:FREEZ DET
2 L:TBC EN
3 L:TBC DET
4 L:TBC INT
5 L:FW DET
6 L:DET S
7 L:686 524 DET
42-3 CN4
S DATA OP
S CLK OP
GND
INT OP
RESET OP
83-3 CN5
S DATA SL1
S CLK SL
GND
INT SL1
INT SL2
RESET SL
74-2 CN11
FREEZE EN
GND
72-1 CN13
GND
RECEIVE B
RECEIVE A
GND
TRANS B
TRANS A
CN6 21-9
1 LTC READ (X)
2 (G)
3 LTC GEN (X)
4 (G)
CN7 82-53
1 VITC READ (X)
2 (G)
3 VITC SYNC (X)
4 (G)
CN8 81-33, 27
1 PB SYNC (X)
2 (G)
3
4
5 VITC P (X)
6 (G)
CN12 21-11
1 L:TC DET
2 GND
CN16 51-6
1 S DATA ME
2 S CLK ME
3 GND
4 INT ME
5 RESET ME
CN17 51-5
1 SP FWD
2 SP REV
3 AT ON
BR-S525E
40 SYSCON
CN1 CN1
1A 1A
1B 1B
22A 22A
22B 22B
CN2 CN2
1A 1A
1B 1B
22A 22A
22B 22B
CN3 CN1
1A 1A
1B 1B
58A 58A
58B 58B
65 TC G/R
40 AUDIO 4
CN7
GAIN CTL 1L
GAIN CTL 1R
GND
CN8
GAIN CTL 2L
GAIN CTL 2R
GND
25 AUDIO 5
CN17
1 GAIN CTL 1L
2 GAIN CTL 1R
3 GND
CN16
1 GAIN CTL 2L
2 GAIN CTL 2R
3 GND
CN15 82-57
1 AUDIO OUT 1L
2 GND
3 GND
4 AUDIO OUT 1R
CN16 82-56
1 AUDIO OUT 2L
2 GND
3 GND
4 AUDIO OUT 2R
73-5 CN11
AUDIO CH1 OUT (H)
AUDIO CH1 OUT (C)
GND
73-6 CN12
AUDIO CH2 OUT (H)
AUDIO CH2 OUT (C)
GND
73-7 CN13
AUDIO LCH OUT (H)
AUDIO LCH OUT (C)
GND
73-8 CN14
AUDIO RCH OUT (H)
AUDIO RCH OUT (C)
GND
82-48 CN18
+15V
GND
-15V
OPTION
CN1 CN1
1A 1A
1B 1B
16A 16A
16B 16B
CN2 82-68
1 +15V
2 GND
CN3 84-5
1 S DATA SL1
2 S DATA SL2
3 S CLK SL
4 GND
5 INT SL1
6 INT SL2
7 RESET SL
CN4 38-19
1 CTL PULSE
2 DRUM FF
3 GND
4 TAPE FWC
03 SLOT MOTHER
71 REAR 1
CN4 82-51
1 U VCR Y OUT (X)
2 U VCR Y OUT (G)
3 U VCR C OUT (X)
4 U VCR C OUT (G)
5 CF P OUT
CN5 82-23
1 EXT REF (X)
2 EXT REF (G)
CN2 82-28
1 LINE OUT 1 (X)
2 LINE OUT 1 (G)
3 LINE OUT 2 (X)
4 LINE OUT 2 (G)
5 DUB Y OUT (X)
6 DUB Y OUT (G)
7 DUB C OUT (X)
8 DUB C OUT (G)
9 VID MON: OUT (X)
10 VID MON: OUT (G)
CN3 82-58
1 AUDIO MON: OUT (X)
2 AUDIO MON: OUT (G)
3 GND
72 REAR2
CN1 84-13
1 GND
2 RSEIVE B
3 RESEIVE A
4 GND
5 TRANS B
6 TRANS A
7
CN2 21-16
1
2
3 TC OUT (G)
4 TC OUT (X)
73 REAR3
CN5 25-11
1 IN AUDIO OUT1 (H)
2 IN AUDIO OUT1 (C)
3 GND
CN6 25-12
1 IN AUDIO OUT2 (H)
2 IN AUDIO OUT2 (C)
3 GND
CN7 25-13
1 IN AUDIO OUT3 (H)
2 IN AUDIO OUT3 (C)
3 GND
CN8 25-14
1 IN AUDIO OUT4 (H)
2 IN AUDIO OUT4 (C)
3 GND
74 REAR4
CN3 82-17
1 R-Y OUT (X)
2 R-Y OUT (G)
3 B-Y OUT (X)
4 B-Y OUT (G)
5 V OUT (X)
6 V OUT (G)
CN1 83-1
1 +12V
2 GND
3 V LEVEL DC
4 C LEVEL DC
5 C PHASE DC
6 SET UP DC
7 V LEVEL UN
8 C LEVEL UN
9 C PHASE UN
10 SET UP UN
CN2 84-11
1 FREEZE EN
2 GND
CN5 82-16
1 HUE DC (G)
2 HUE DC (X)
3 L:TBC EN
4 L:TBC INT
FAN MOTOR
FAN MOTOR
SW REG
82-74
1 REG +15V
2 GND
3 REG +7.5V
4 GND
82-65
1 REG -15V
2 GND
82-64
1 REG +12V
2 GND
3 REG +18V
4 GND
CN1
1 LIVE
2 NEUTRAL
CN6
1 VOLT SELECT
2 VOLT SELECT
220V-240V
110V-127V
POWER SW
AC INLET
FUSE
F1 T4A
81-5 CN4
+12V
GND
L:SET UP
C VARIABLE
V VARIABLE
V LEVEL CONT
V SET UP CONT
C LEVEL CONT
CN30 82-77
1 PB FW (X)
2 PB FW (G)
CN39 82-44
1 PB C (X)
2 PB C (G)
CN40 82-76
1 CNB C (X)
2 CNB C (G)
CN2 58-
1 +18V
2 GND
CN37 81-2
1 VM DRIVE (G)
2 VM DRIVE (X)
CN23 58-2
1 ADV SYNC (X)
2 ADV SYNC (G)
CN24 82-58
1 SWP SW
2
3
4
5
6 SWP SEL2
CN18 82-4
1 SUB CARR (X)
2 SUB CARR (G)
BR-S525E
CN27 84-7
1 PB FW (X)
2 PB FW (G)
CN28 82-7
1 L:S
2 L:EDIT SW
CN29 82-12
1 L:DET S
2 L:FW
CN38 82-45
1
2
3 PB SYNC (X)
4 PB SYNC (G)
CN31 82-14
1 VIDEO FF (X)
2 VIDEO FF (G)
CN32 38-28
1 PB SYNC (X)
2 PB SYNC (G)
3 VIDEO FF (X)
4 VIDEO FF (G)
5 L:SEARCH
CN33 84-8
1 PB SYNC (X)
2 PB SYNC (G)
CN34 84-1
1 TP RF OUT (X)
2 TP RF OUT (G)
CN11 81-21
1 PB FID
2 PAL PULSE
3 1/4 SC
4 1/4 SCB
5 R SYNC (X)
6 R SYNC (G)
7
8
9 Y (X)
10 Y (G)
11 R-Y (X)
12 R-Y (G)
13 B-Y (X)
14 B-Y (G)
15 TBC-Y (X)
16 TBC-Y (G)
17 TBC R-Y (X)
18 TBC R-Y (G)
19 TBC B-Y (X)
20 TBC B-Y (G)
CN12 81-29
1 L:DET S
2 L:PB V
CN13 81-22
1 D.DOP (X)
2 D.DOP (G)
3
4
5
6
7
8 L:CTL OFF
9 CORR P (X)
10 CORR P (G)
11 PF Y (X)
12 PF V (G)
13 DOP (X)
14 DOP (G)
15 SWP (X)
16 SWP (G)
17 DELETE P (X)
18 DELETE P (G)
19 X1
20 L:SEARCH
CN79 51-5
1 DOP (X)
2 DOP (G)
CN15 81-15
1 L:TBC 1 DET
2 L:NO VIDEO
3 REF V SYNC (X)
4 L B/W
5 AFC 14.2M
6 AFC 14.2MB
7 GND
CN16 74-5
1 HUE DC (G)
2 HUE DC (X)
3 L:TBC EN
4 L:TBC INT
CN17 74-3
1 R-Y OUT (X)
2 R-Y OUT (G)
3 B-Y OUT (X)
4 B-Y OUT (G)
5 V OUT (X)
6 V OUT (G)
82 MOTHER 2
83-6 CN18
P CONT 2 (G)
P CONT 1 (X)
L:EDIT SW
81-28 CN19
TBC C (G)
TBC C (X)
71-2 CN28
LINE OUT 1 (X)
LINE OUT 1 (G)
LINE OUT 2 (X)
LINE OUT 2 (G)
DUB Y OUT (X)
DUB Y OUT (G)
DUB C OUT (X)
DUB C OUT (G)
VID MON: OUT(X)
VID MON: OUT(G)
81-18 CN21
-1HV (X)
-1HV (G)
H REF (X)
H REF (G)
L:AFC
L:H SPEED
L:NTSC
L:TBC INT
38-1 CN22
EXT REF (X)
EXT REF (G)
71-5 CN23
EXT REF (X)
EXT REF (G)
38-18 CN25
REC CF ID (X)
REC CF ID (G)
38-3 CN27
L:EXT
L:WIDE REC
REF SYNC (X)
REF SYNC (G)
L:WIDE PB
(PAL)
BR-S525E
CN28 58-4
1 SWP (G)
2 SWP (X)
3 +9V
4 (AMP MODE)
CN38 81-24
1 HPF SW
2
3
4
5
6 SWP SEL 2
CN31 58-7
1 PB SIG (X)
2 PB SIG (G)
3
4
CN32 81-38
1
2
3 PB SYNC (X)
4 PB SYNC (G)
CN75 26-1
1 LCH VR IN
2 GND
3 GND
4 RCH VR IN
CN34 81-31, 39
1 VIDEO FF (X)
2 VIDEO FF (G)
3 PB C (X)
4 PB C (G)
CN35 38-4
1 CF PULSE (X)
2 CF PULSE (G)
CN36 81-14
1 I2T DATA
2 GND
3 H:INS ON
4 SHIFT CLK
5 STOR CLK
6 GND
7 L:V BLK ON
CN37 81-35
1 L:FREEZ DET
2 L:VT OFF S
3 L:TBC EN
4 L:TBC ON
5 L:FREEZE
CN38 38-17
1 TAPE TWD
2 DRUM FF (X)
3 DRUM FF (G)
4 VE FF 1
5 GND
6 VE FF 2
7 AUDIO FF (X)
8 AUDIO FF (G)
CN39 28-4
1 L CH PB FM (X)
2 L CH PB FM (G)
3 R CH PB FM (X)
4 R CH PB FM (G)
28-3 CN40
RF 5V
GND
H:FMA REC
GND
S/H
H:FMA PB
81-4 J186
SUB CARR1 (X)
SUB CARR1 (G)
BR-S525E
81-15 CN42
+15V
+7.5V
GND
GND
28-2 CN43
H.FM DET
AUDIO FF (G)
AUDIO FF (X)
26-3 CN44
L CH LINE OUT (X)
L CH LINE OUT (G)
R CH LINE OUT (G)
R CH LINE OUT (X)
27-6 CN45
CH1/LCH HP
CH2/RCH HP
GND
H:MUTE
26-4 CN46
CH1 LINE OUT
GND
GND
CH2 LINE OUT
81-17 CN47
-15V
+15V
+7.5V
GND
GND
25-18 CN48
+15V
GND
-15V
21-7 CN49
+15V
GND
-15V
31-1 CN50
MOTOR 18V
MOTOR GND
+15V
GND
+7.5V
GND
-15V
GND
71-4 CN51
UVCR Y OUT (X)
UVCR Y OUT (G)
UVCR C OUT (X)
UVCR C OUT (G)
CFP OUT
CN52 21-12
+5V
GND
A DATA
CH1 CLK
CH2 CLK
TC CLK
CN53 38-13
+15V
+7.5V
GND
MOTOR 12V
MOTOR GND
CN54 84-7
VITC READ (X)
VITC RSAD (G)
VITC SYNC (X)
VITC SYNC (G)
CN55 84-3
S DATA ME
S CLK ME
GND
INT ME
RESET ME
CN55 31-9
S DATA ME
S CLK ME
GND
INT ME
RESET ME
CN56 25-16
AUDIO OUT 2L(X)
AUDIO OUT 2L(G)
AUDIO OUT 2R(G)
AUDIO OUT 2R(X)
CN57 25-15
AUDIO OUT 1L(X)
AUDIO OUT 1L(G)
AUDIO OUT 1R(G)
AUDIO OUT 1R(X)
CN58 71-7
AUDIO MON: OUT
GND
GND
CN59 FAN MOTOR
MOTOR 18V
MOTOR GND
MOTOR 18V
MOTOR GND
CN60 83-2
+15V
GND
CN61 42-1
+15V
GND
+7.5V
GND
CN62 84-9
+15V
+7.5V
GND
GND
CN77 81-38
PB FW (X)
PB FW (G)
CN78 81-48
CNB C (X)
CNB C (G)
SW REG CN64
REG +12V
GND
REG +18V
GND
SW REG CN65
REG -15V
GND
51-1,2 CN78
-15V
+15V
+7.5V
GND
GND
MOTER 12V
MOTER GND
80-2 CN68
+15V
GND
CH1/LCH METER
CH2/RCH METER
81-17 CN78
GND
AFC FR (X)
CLAMP PULSE(X)
SYNC (X)
TAPE V (X)
GND
81-12 CN71
MODE2
MODE1
WCLKB
WCLK
GND
84-18 CN72
L:FREEZE DET
L:TBC EN
L:TBC DET
L:TBC INT
L:FW DET
L:DET S
L:686 524 DET
83-4 CN73
VIDEO PHS (X)
(G)
SW REG CN74
REG +7.5V
GND
REG +7.5V
GND

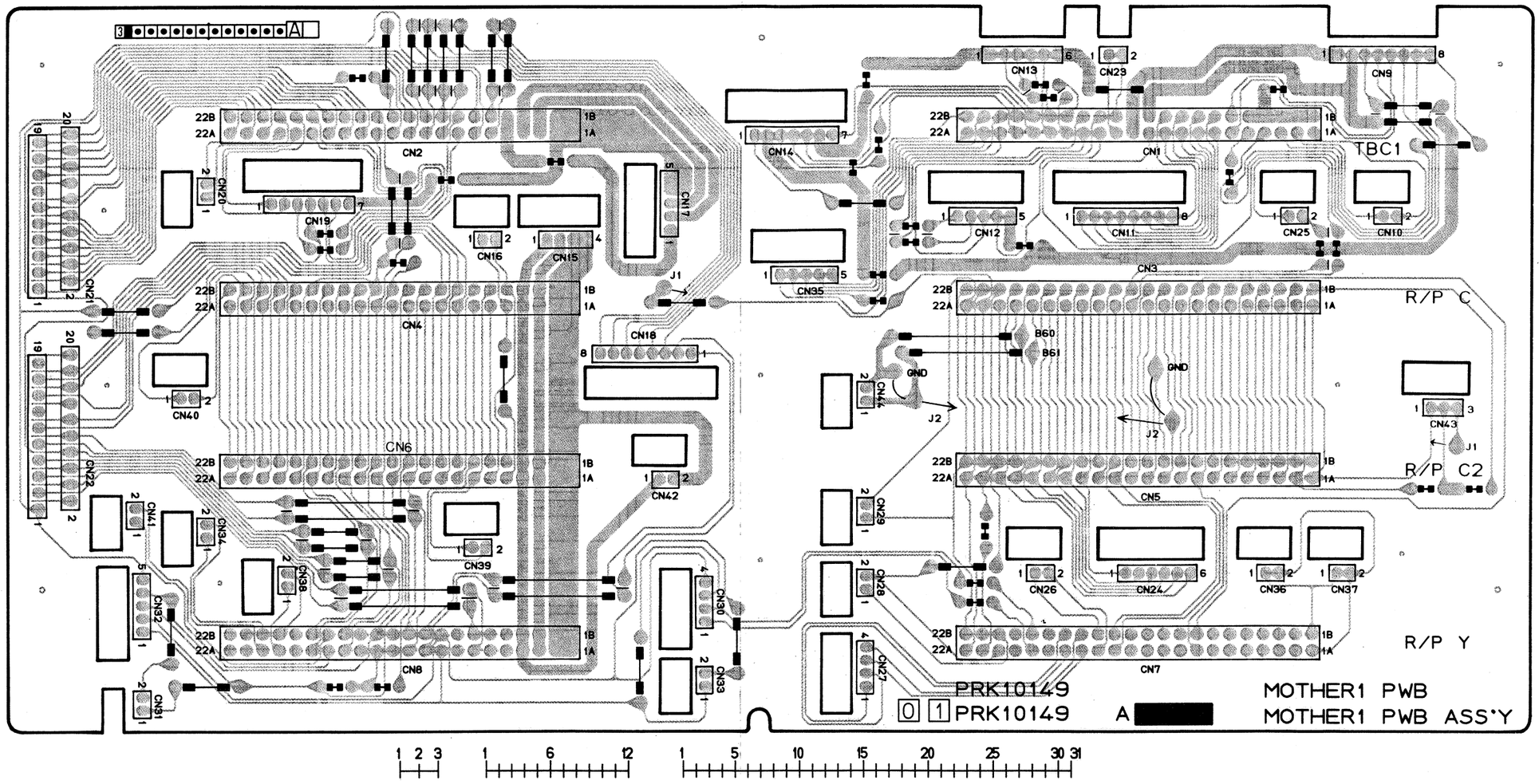
4.21 MOTHER-1 CIRCUIT BOARD

[BR-S522E]

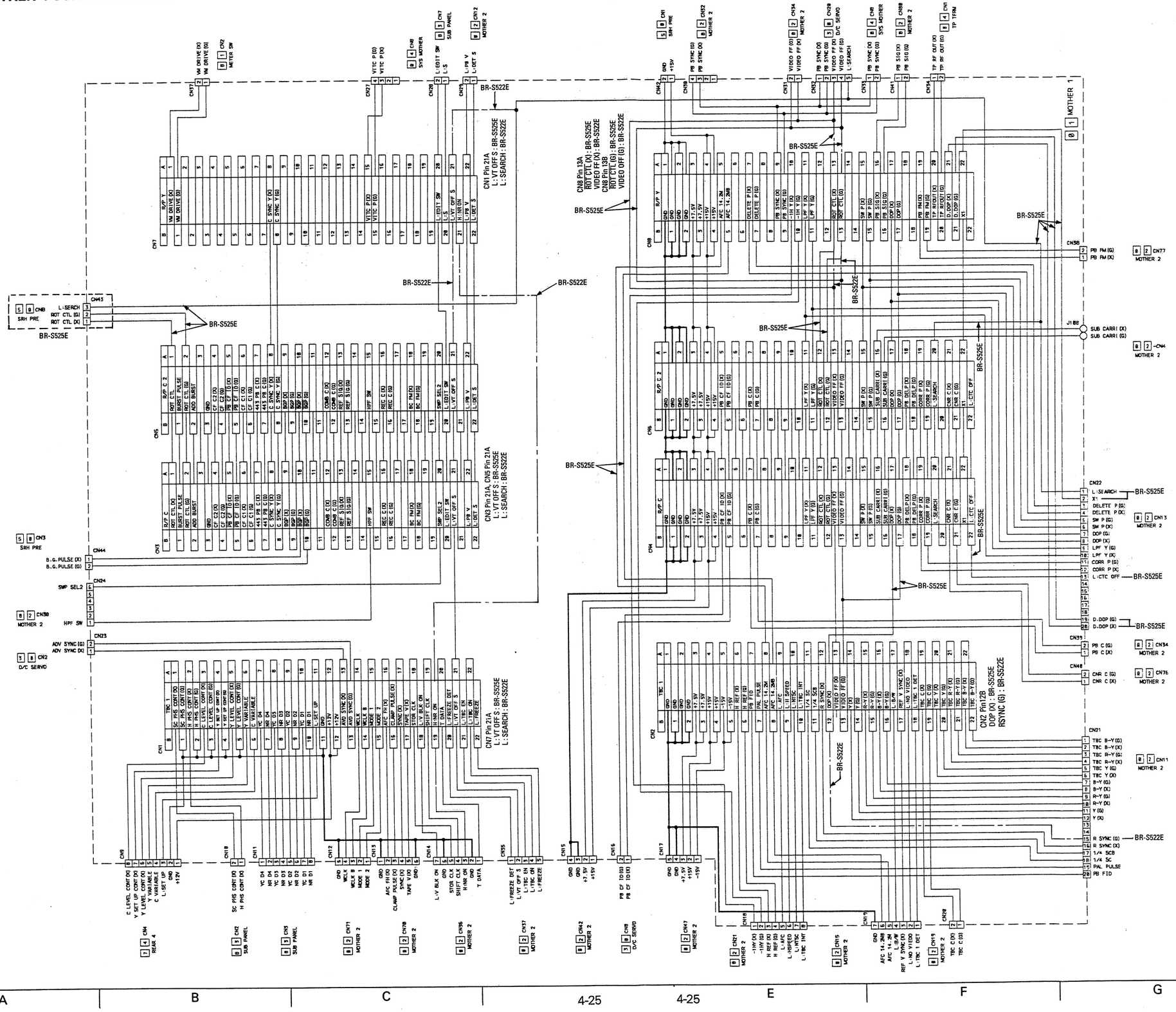
(SOLDER SIDE)



(SOLDER SIDE)

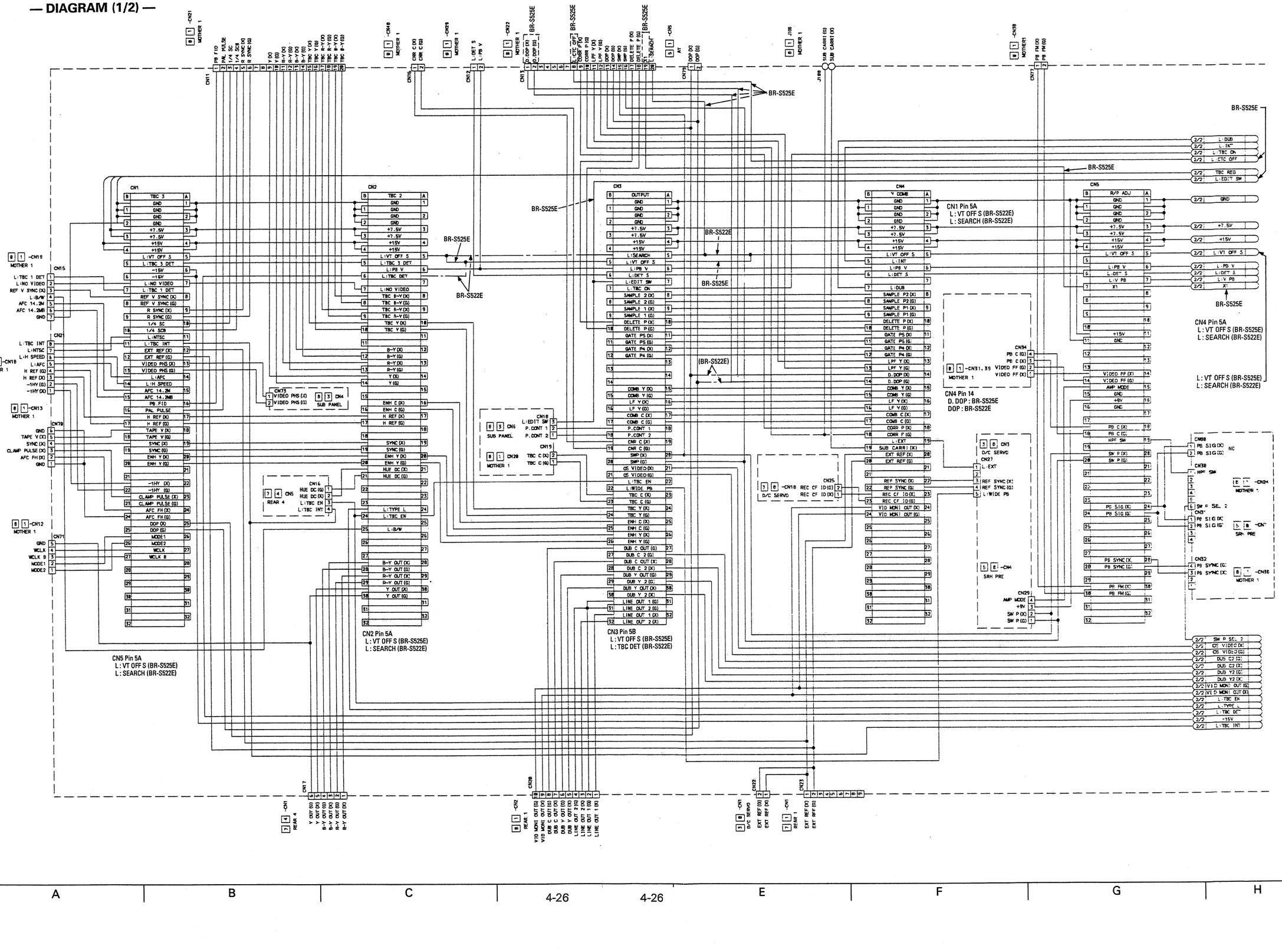

CN2
CN19
CN20
CN16
CN15
CN17
CN14
CN13
CN23
CN9
CN1
CN12
CN11
CN25
CN10
TBC1
CN35
CN3
R/P C
CN4
CN18
J1
CN21
CN40
CN44
B60
B61
GND
J2
CN43
CN6
CN42
R/P C2
CN22
CN41
CN34
CN38
CN39
CN5
CN29
CN28
CN26
CN24
CN36
CN37
CN32
CN30
CN33
CN8
CN27
CN7
R/P Y
PRK10149
0 1 PRK10149
A
MOTHER1 PWB
MOTHER1 PWB ASS'Y

4.22 MOTHER-1 SCHEMATIC DIAGRAM

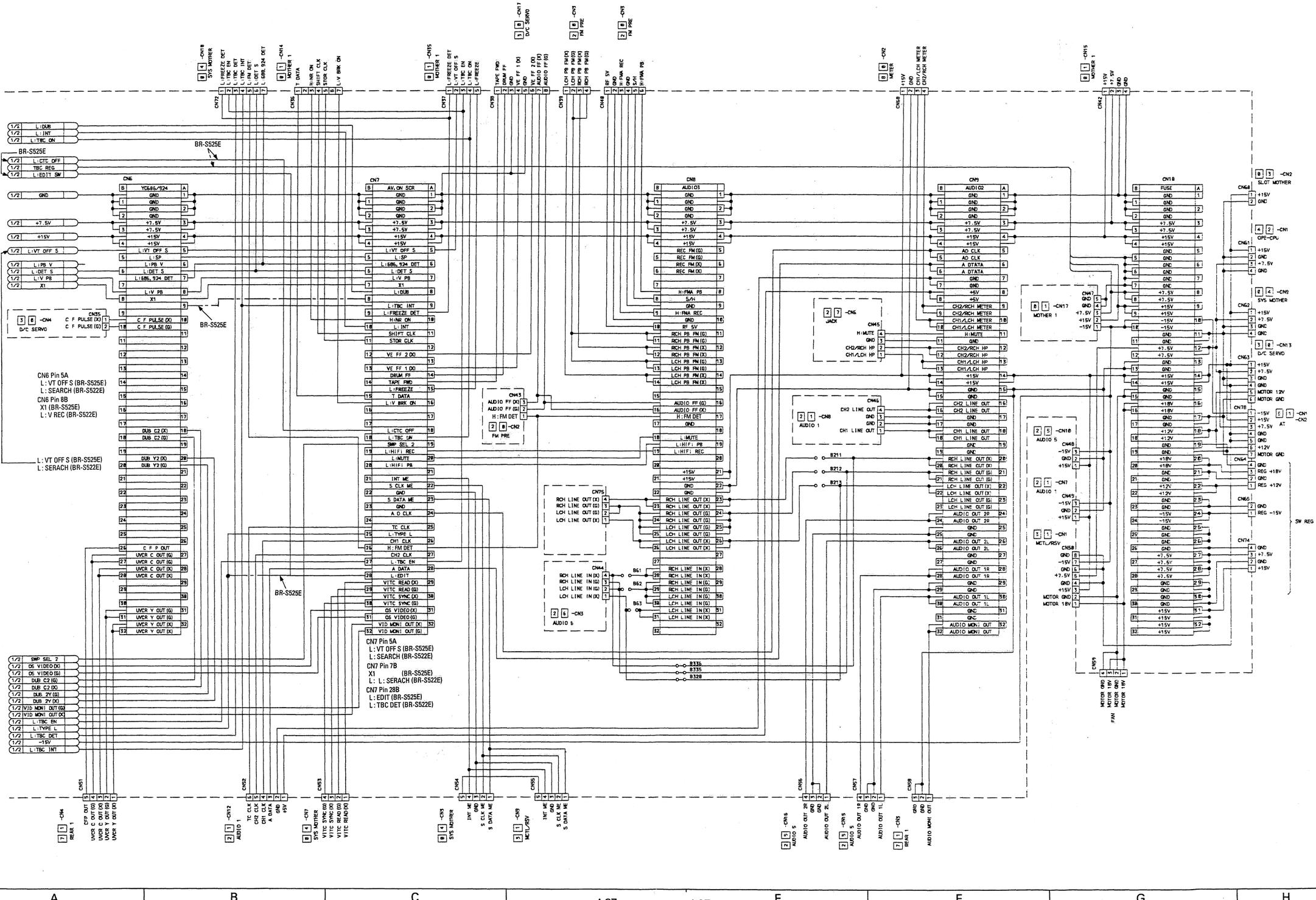


4.23 MOTHER-2 SCHEMATIC DIAGRAM

— DIAGRAM (1/2) —

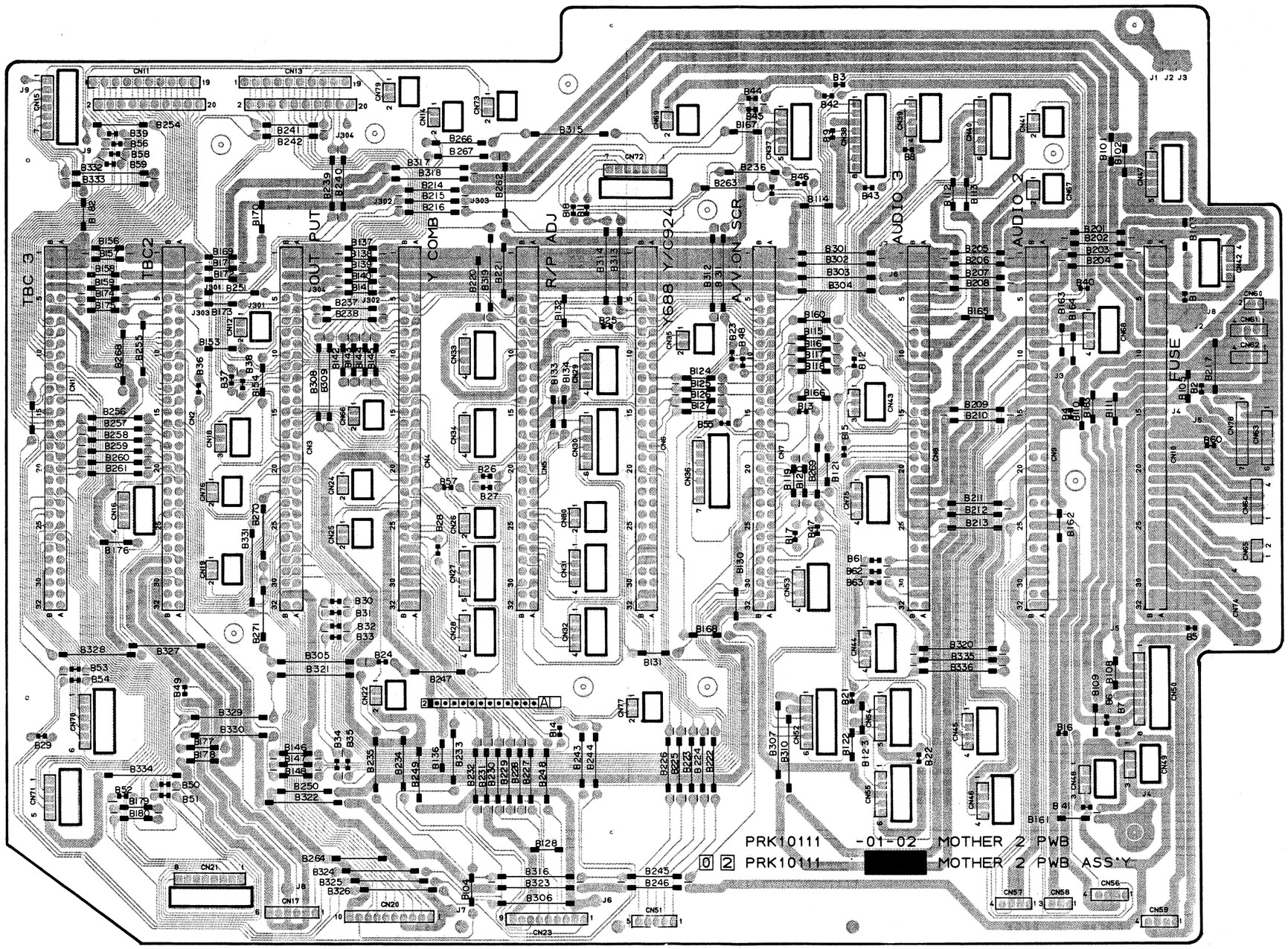


— DIAGRAM (2/2) —


CN6
YC686/924
CN7
AV, ON SCR
CN8
AUDIO3
CN9
AUDIO2
CN18
FUSE
CN35
C F PULSE (X)
C F PULSE (G)
BR-S525E
CN6 Pin 5A
L : VT OFF S (BR-S525E)
L : SEARCH (BR-S522E)
CN6 Pin 8B
X1 (BR-S525E)
L : V REC (BR-S522E)
L : VT OFF S (BR-S525E)
L : SERACH (BR-S522E)
CN7 Pin 5A
L : VT OFF S (BR-S525E)
L : SEARCH (BR-S522E)
CN7 Pin 7B
X1 (BR-S525E)
L : L : SERACH (BR-S522E)
CN7 Pin 28B
L : EDIT (BR-S525E)
L : TBC DET (BR-S522E)
CN43
FM PRE
CN44
CN45
CN46
CN47
CN48
CN49
CN58
CN74
CN75
CN78
CN61
CN62
CN63
CN64
CN65
CN68
SLOT MOTHER
SYS MOTHER
D/C SERVO
OPE-CPU
SW REG
MOTOR GND
MOTOR 12V
MOTOR 18V
REG +18V
REG +12V
REG -15V
FAN
JACK
AUDIO 1
AUDIO 5
MOTHER 1
REAR 1
MCTL/RSV
SYS VIDEO (X)
SYS VIDEO (G)
DUB C2 (X)
DUB C2 (G)
DUB 2Y (X)
DUB 2Y (G)
VID MONI OUT (G)
VID MONI OUT (X)
L : TBC EN
L : TYPE L
L : TBC DET
-15V
L : TBC INT
SWP SEL 2
AUDIO FF (X)
AUDIO FF (G)
H : FM DET
RCH PB FM (X)
RCH PB FM (G)
LCH PB FM (X)
LCH PB FM (G)
RCH LINE OUT (X)
RCH LINE OUT (G)
LCH LINE OUT (X)
LCH LINE OUT (G)
RCH LINE IN (X)
RCH LINE IN (G)
LCH LINE IN (X)
LCH LINE IN (G)
B211
B212
B213
B61
B62
B63
B335
B336
B328

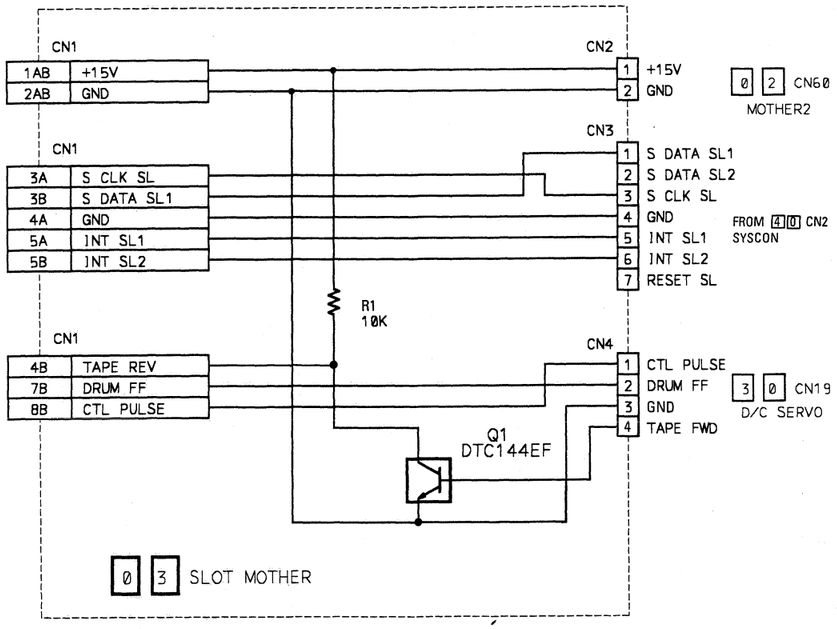
4.24 MOTHER-2 CIRCUIT BOARD

(SOLDER SIDE)

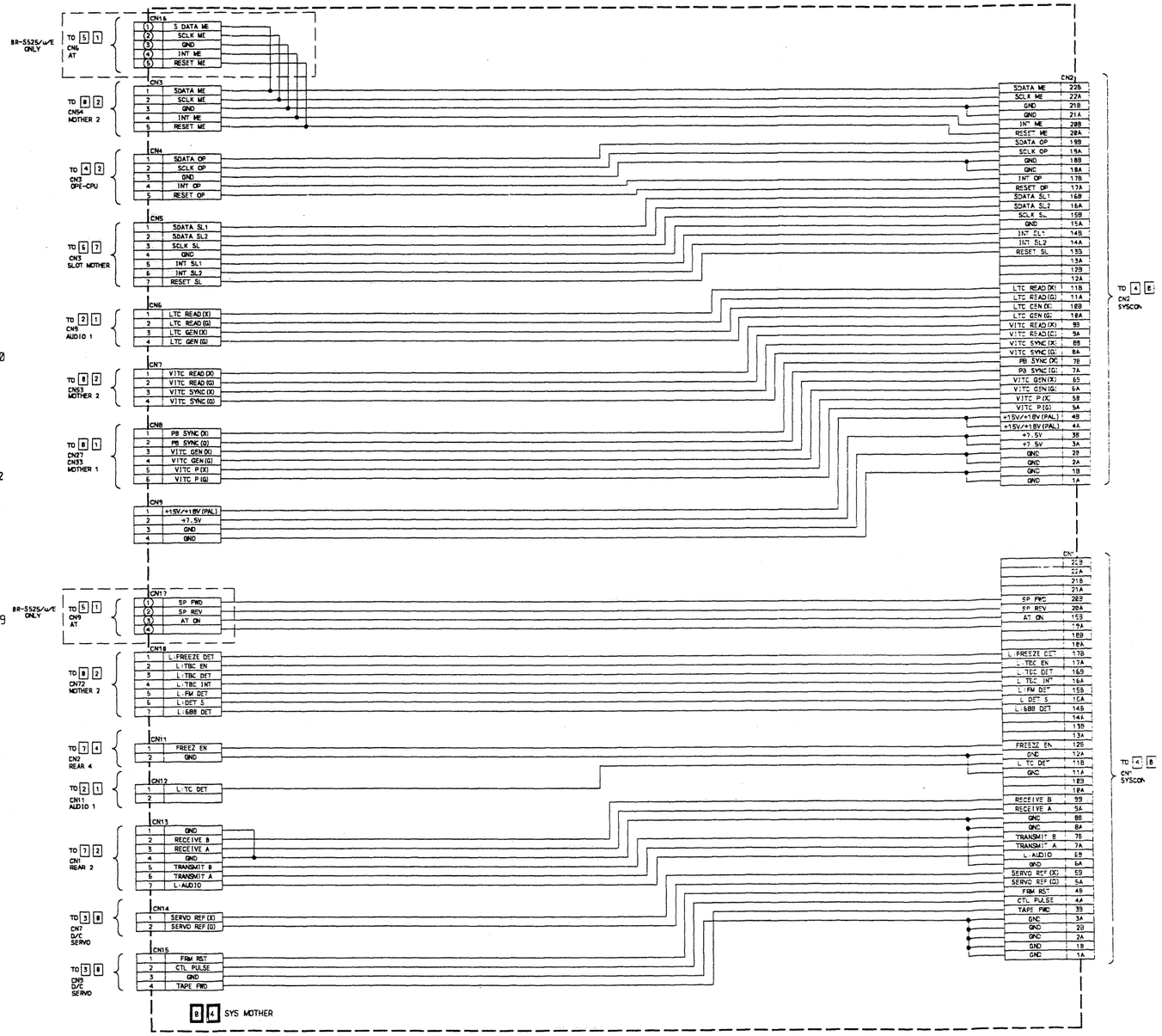


4.25 SLOT MOTHER & SYSCON MOTHER SCHEMATIC DIAGRAM

— SLOT MOTHER —

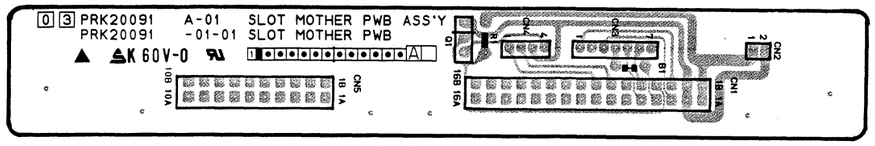


— SYSCON MOTHER —

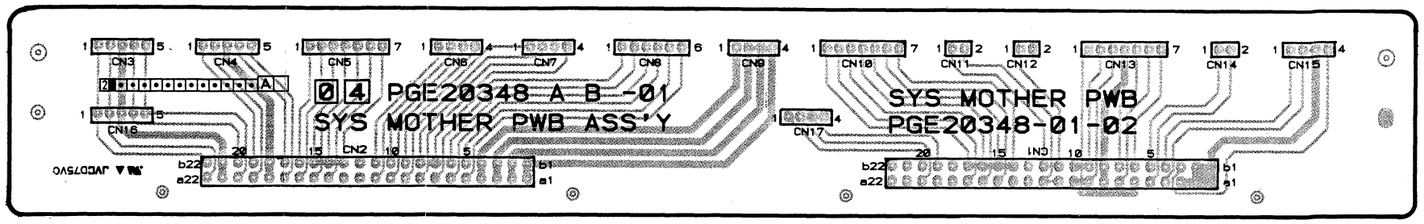


4.26 SLOT MOHTER & SYSCON MOTHER CIRCUIT BOARDS

— SLOT MOTHER — (SOLDER SIDE)

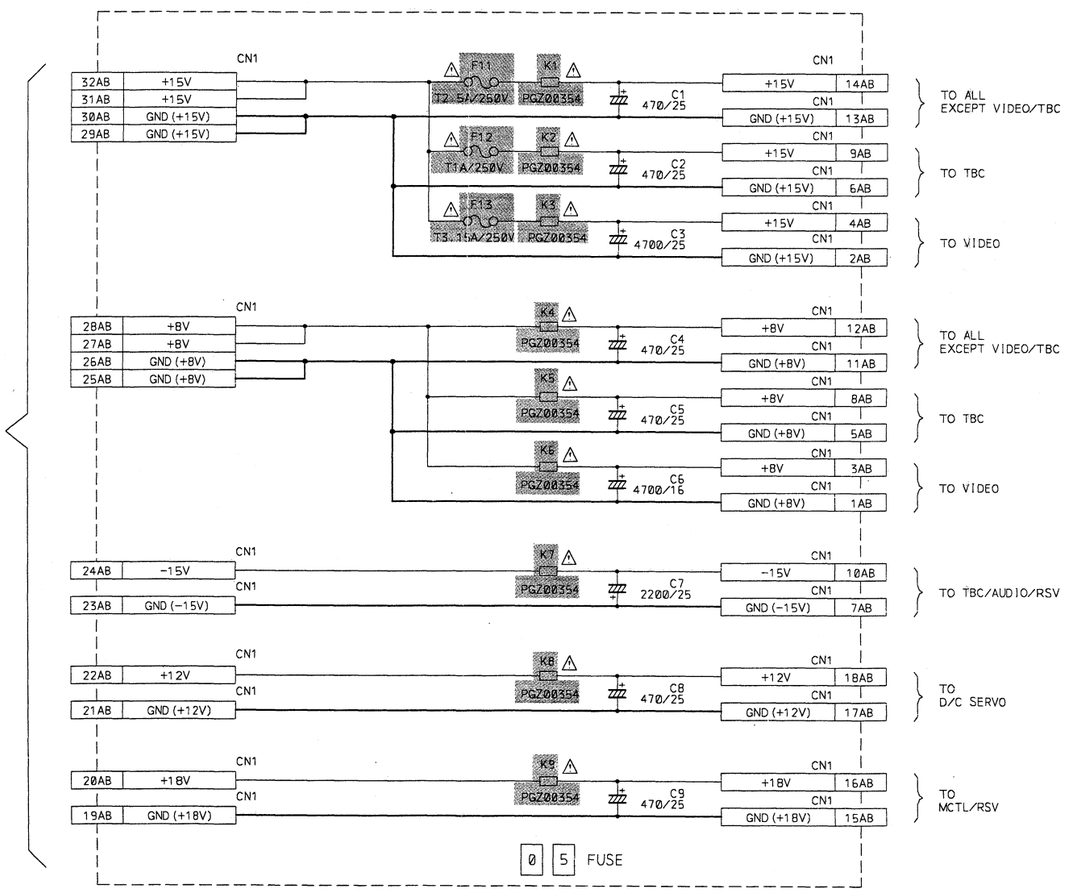


— SYSCON MOTHER — (SOLDER SIDE)



4.27 FUSE SCHEMATIC DIAGRAM & CIRCUIT BOARD

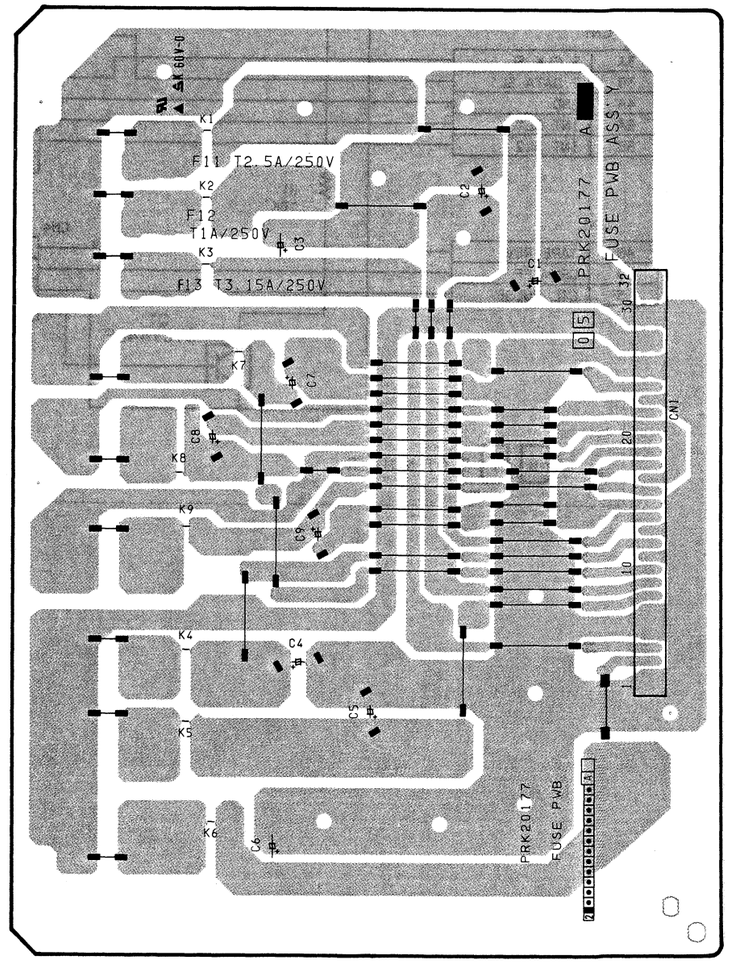
— SCHEMATIC —



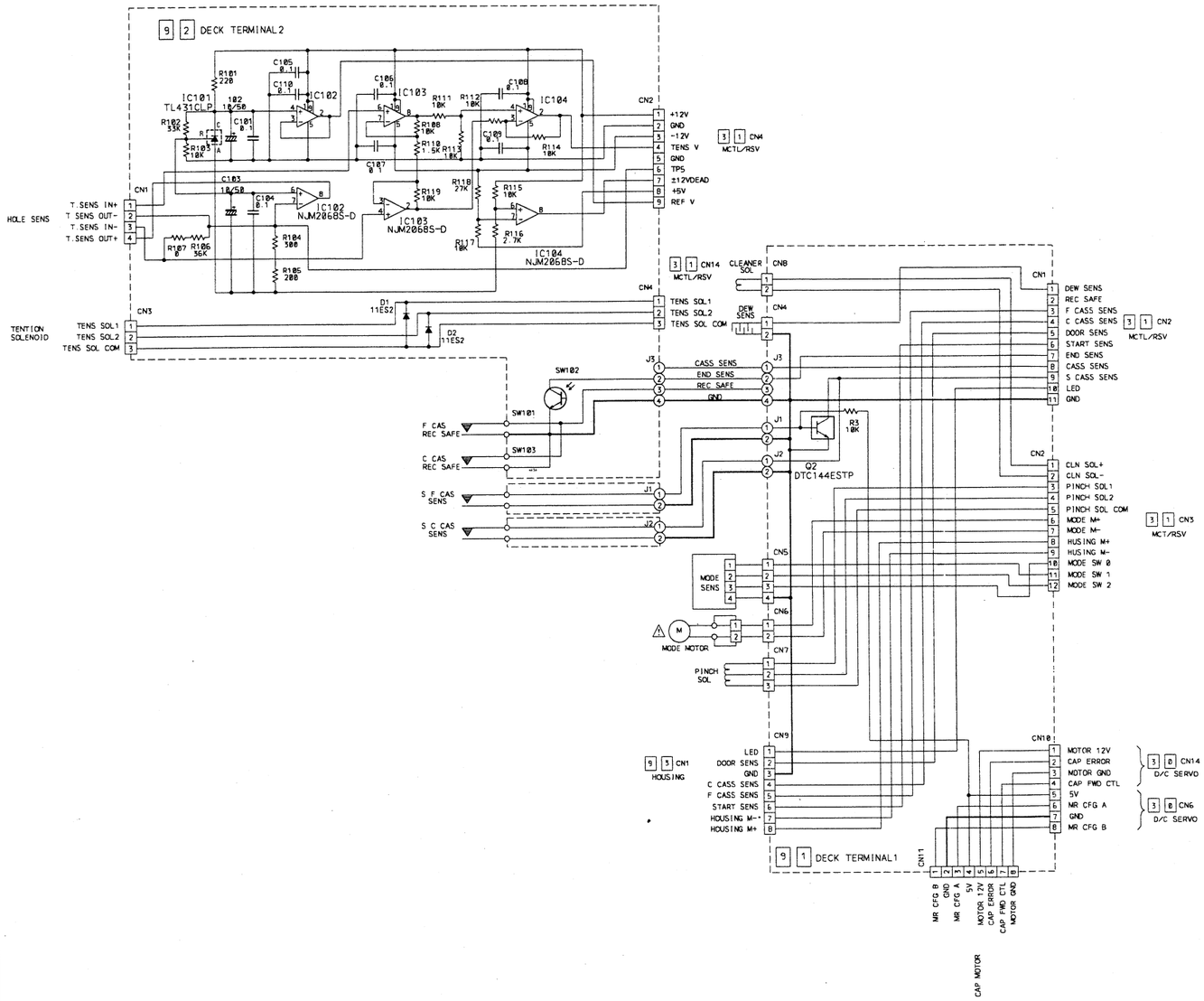
— DC Voltage —

SYMBOL No.		PB
CONNECTOR		
CN1	32AB	15.1
	31AB	15.1
	30AB	0.0
	29AB	0.0
	28AB	7.6
	27AB	7.6
	26AB	0.0
	25AB	0.0
	24AB	-15.3
	23AB	0.0
	22AB	12.0
	21AB	0.0
	20AB	18.0
	19AB	0.0
	14AB	15.0
	13AB	0.0
	9AB	15.0
	6AB	0.0
	4AB	14.9
	2AB	0.0
	12AB	7.4
	11AB	0.0
	8AB	7.5
	5AB	0.0
	3AB	7.4
	1AB	0.0
	10AB	-15.2
	7AB	0.0
	18AB	12.0
	17AB	0.0
	16AB	17.9
	15AB	0.0

— CIRCUIT BOARD — (SOLDER SIDE)

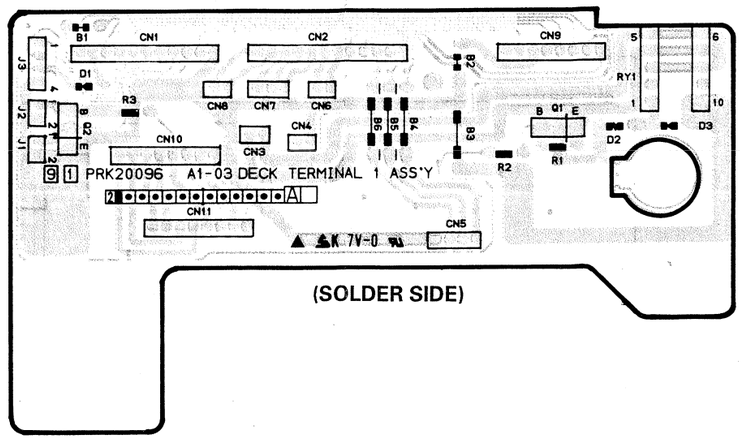


4.28 DECK TERMINAL SCHEMATIC DIAGRAM

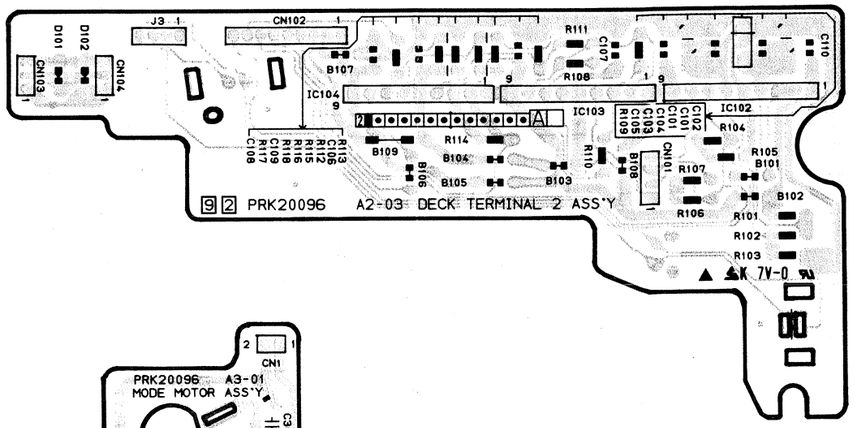


4.29 DECK TERMINAL & CASSETTE HOUSING CIRCUIT BOARD

— DECK TERMINAL (PRK20096-01-06) —

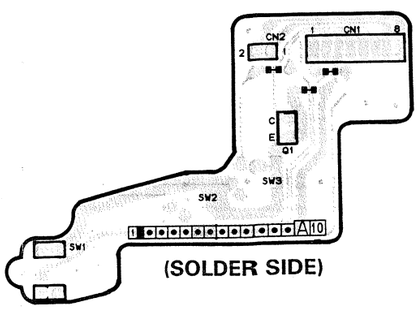


(SOLDER SIDE)



(SOLDER SIDE)

— CASSETTE HOUSING —



(SOLDER SIDE)



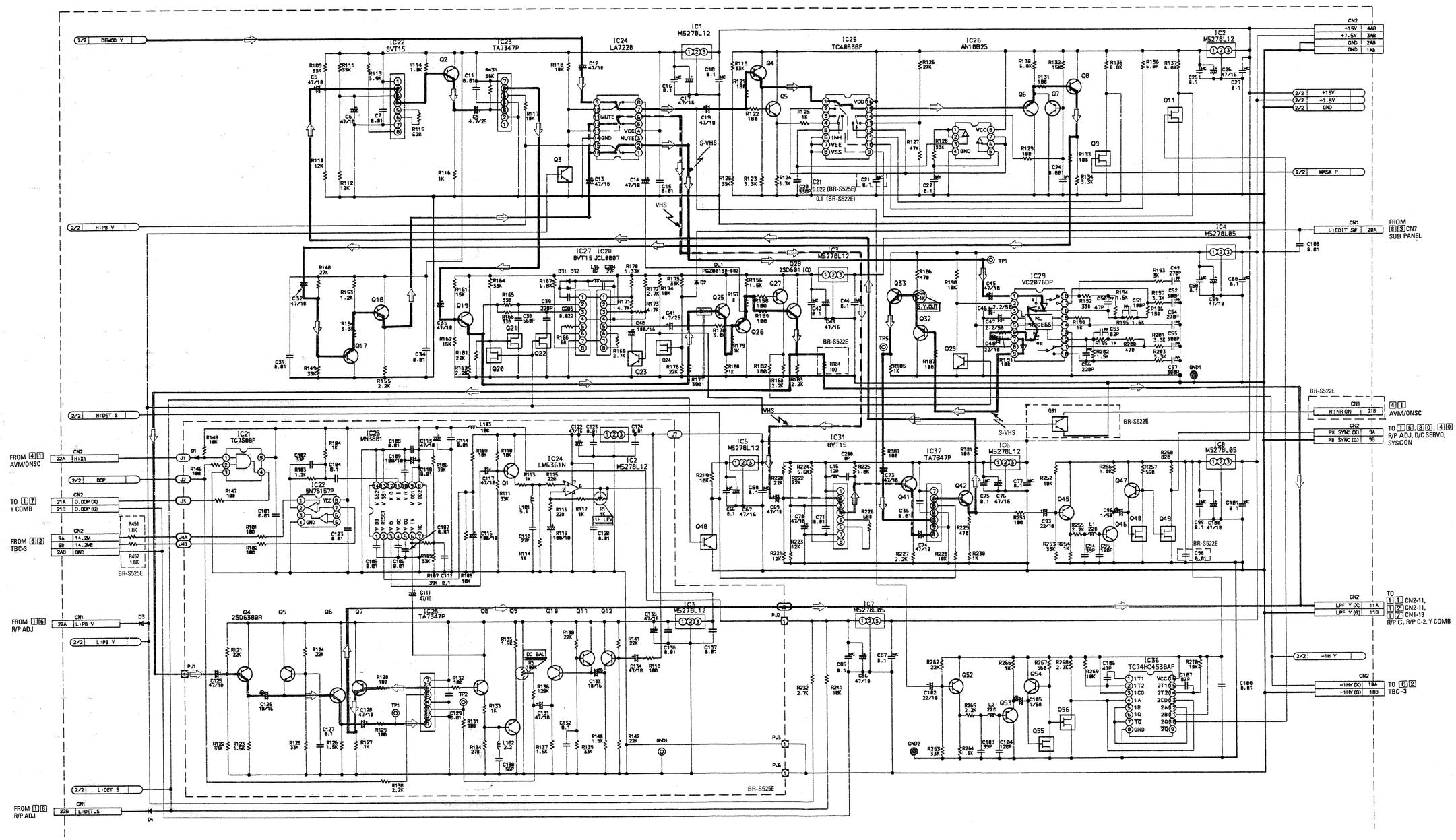
(SOLDER SIDE)



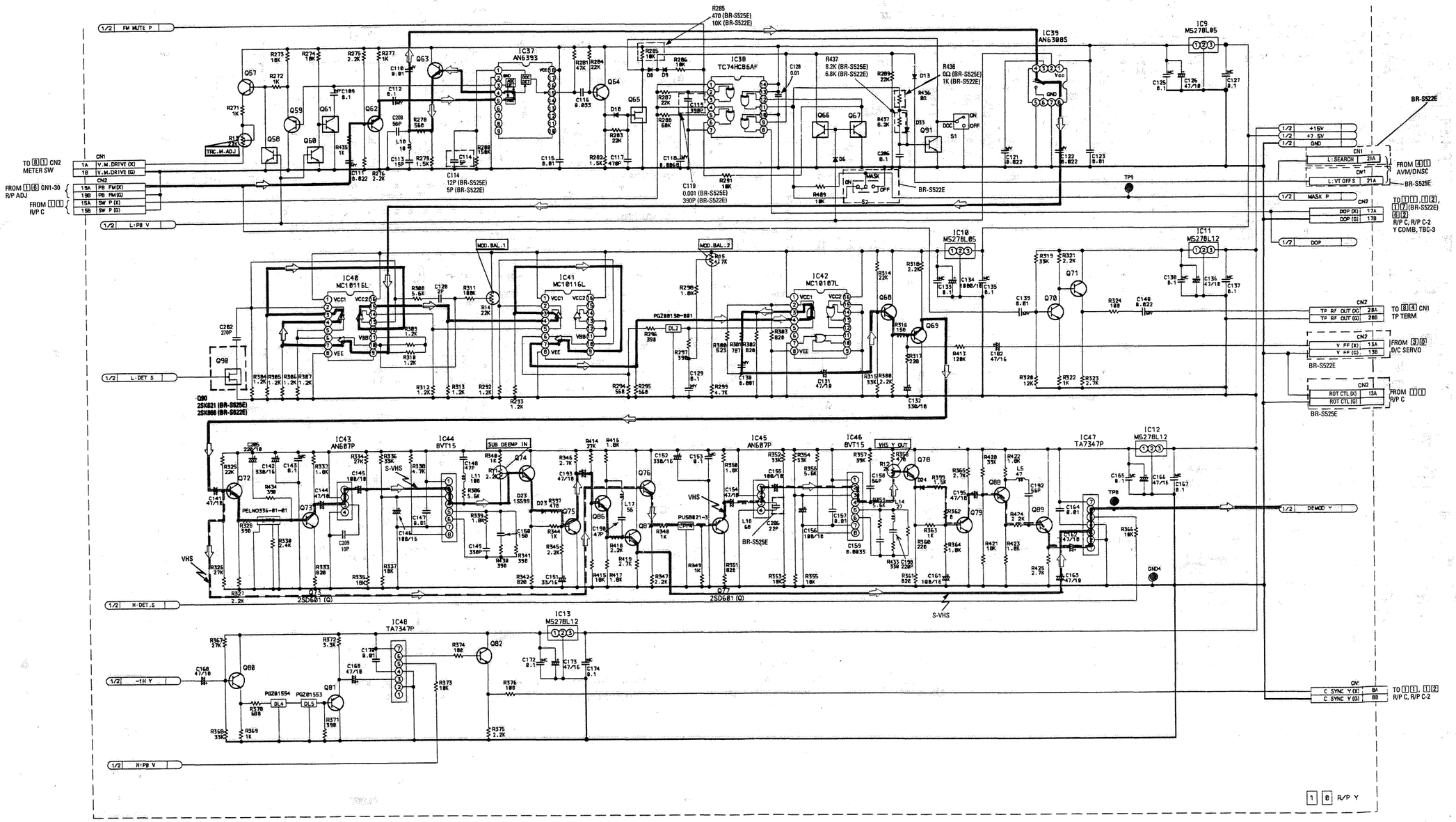
(SOLDER SIDE)

4.30 REC/PB Y SCHEMATIC DIAGRAM

— DIAGRAM (1/2) —



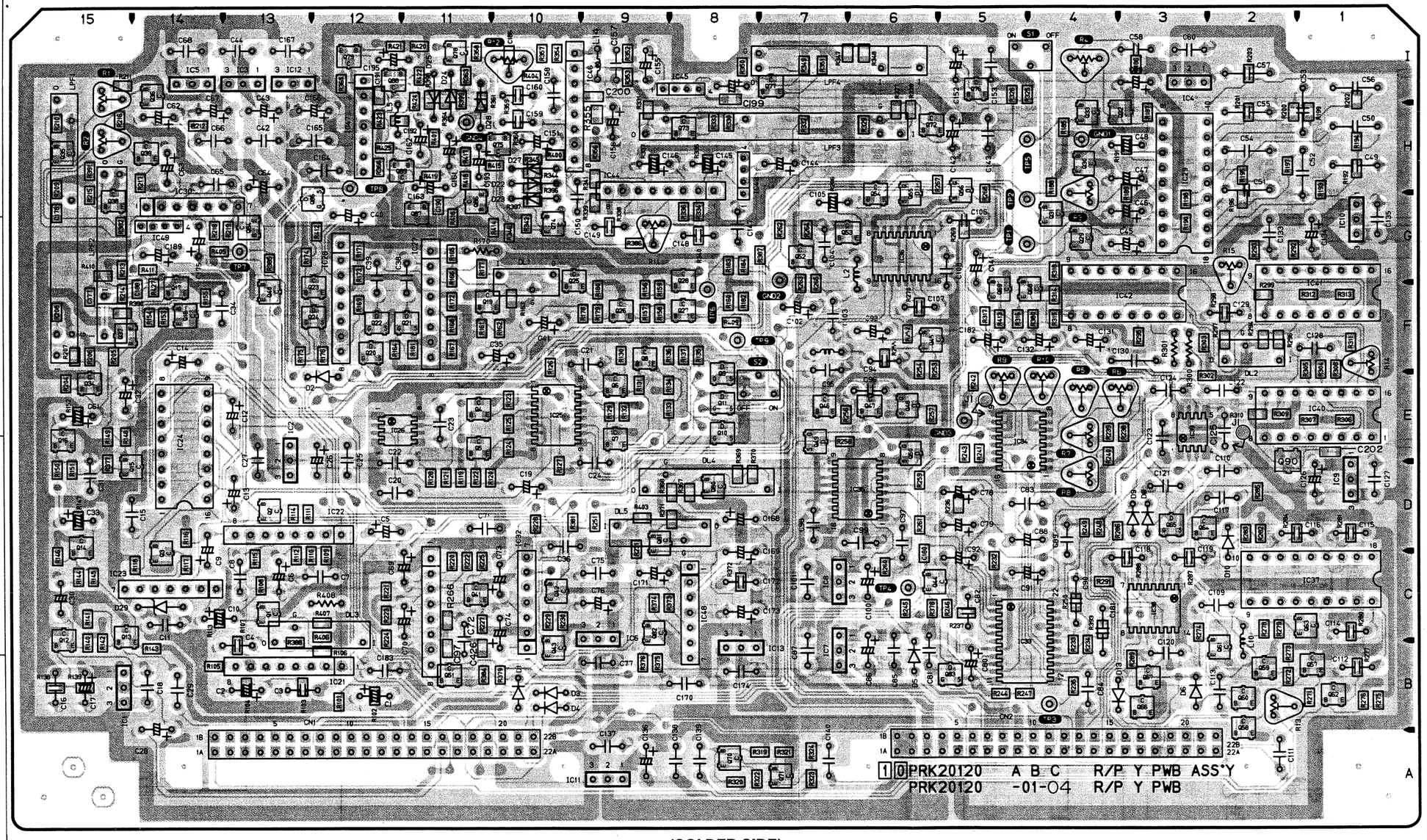
— DIAGRAM (2/2) —


1/2 FM MUTE P
IC37 AN6393
IC38 TC74HC86AF
IC39 AN6308S
IC9 M5278L05
R285 470 (BR-S525E) 10K (BR-S522E)
R437 8.2K (BR-S525E) 6.8K (BR-S522E)
R436 0Ω (BR-S525E) 1K (BR-S522E)
BR-S522E
TRC.M.ADJ
CN1
1A V.M.DRIVE (X)
1B V.M.DRIVE (G)
CN2
1SA PB FM(X)
1SB PB FM(G)
15A SW P (X)
15B SW P (G)
TO 8 1 CN2 METER SW
FROM 1 6 CN1-30 R/P ADJ
FROM 1 1 R/P C
1/2 L:PB V
C114 12P (BR-S525E) 5P (BR-S522E)
C119 0.001 (BR-S525E) 390P (BR-S522E)
S1
S2
TP9
1/2 +15V
1/2 +5.5V
GND
CN1
L:SEARCH 21A
L:VT OFF S 21A
FROM 4 1 AVM/DNSC
BR-S525E
1/2 MASK P
CN2
DOP (X) 17A
DOP (G) 17B
TO 1 1, 1 2, 1 7 (BR-S522E) 6 2 R/P C, R/P C-2 Y COMB, TBC-3
1/2 DOP
IC40 MC1811GL
IC41 MC1011GL
IC42 MC1010L7
IC10 M5278L05
IC11 M5278L12
MOD.BAL.1
MOD.BAL.2
PQZ8013E-B01
DL7
1/2 L:DET S
Q98
Q90 2SK121 (BR-S525E) 2SK666 (BR-S522E)
CN2
TP RF OUT (X) 28A
TP RF OUT (G) 28B
TO 8 4 CN1 TP TERM
V FF (X) 15A
V FF (G) 13B
FROM 3 0 D/C SERVO
BR-S522E
ROT CTL (X) 13A
ROT CTL (G) 13B
FROM 1 1 R/P C
BR-S525E
IC43 AN6B7P
IC44 8VT15
IC45 AN6B7P
IC46 8VT15
IC47 TA7347P
IC12 M527BL12
SUB DEEMP IN
VHS Y OUT
S-VHS
VHS
PELM0336-B1-B1
PU5B821-3
BR-S525E
1/2 H:DET.S
2SD681 (Q)
2SD681 (O)
1/2 DEMOD Y
TPB
GND
IC48 TA7347P
IC13 M527BL12
1/2 -1H Y
1/2 H:PB V
PQZB1554
PQZB1553
CN1
C SYNC Y (X) 8A
C SYNC Y (G) 8B
TO 1 1, 1 2 R/P C, R/P C-2
1 0 R/P Y

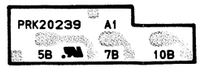
4.31 REC/PB Y CIRCUIT BOARD

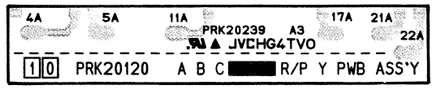
[BR-S525E]

— REC/PB Y —

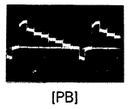
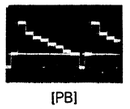
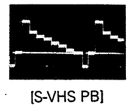
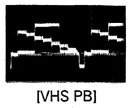
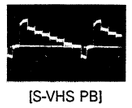
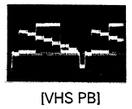
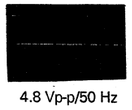
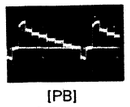
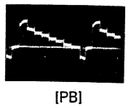


(SOLDER SIDE)

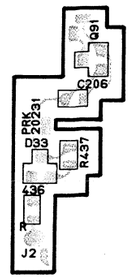




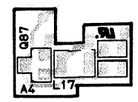
— MAIN WAVEFORMS OF REC/PB Y CIRCUIT —

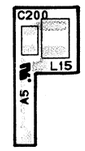
TP1	TP5	TP6 (BR-S522E)		TP8		TP9	TP1 (BR-S525E)	TP2 (BR-S525E)
								
[PB] 400 mVp-p	[PB] 1.0 Vp-p	[S-VHS PB] 1.8 Vp-p	[VHS PB] 1.8 Vp-p	[S-VHS PB] 1.5 Vp-p	[VHS PB] 1.7 Vp-p	4.8 Vp-p/50 Hz	[PB] 1.8 Vp-p	[PB] 1.8 V
							SUB DOC CIRCUIT	

— DOC CUT —



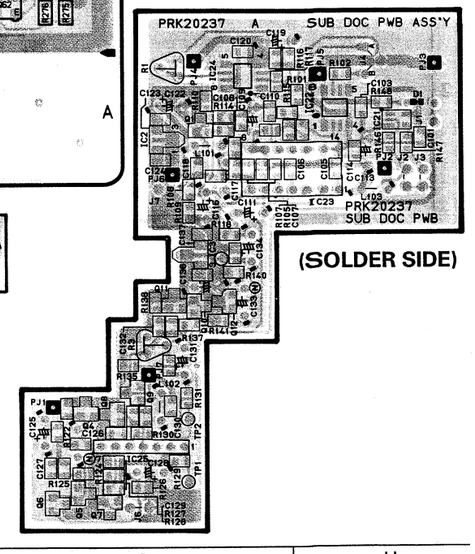
— R/P Y SUB —







— SUB DOC —



(SOLDER SIDE)

— DC Voltage (1/2) — (R/P Y)

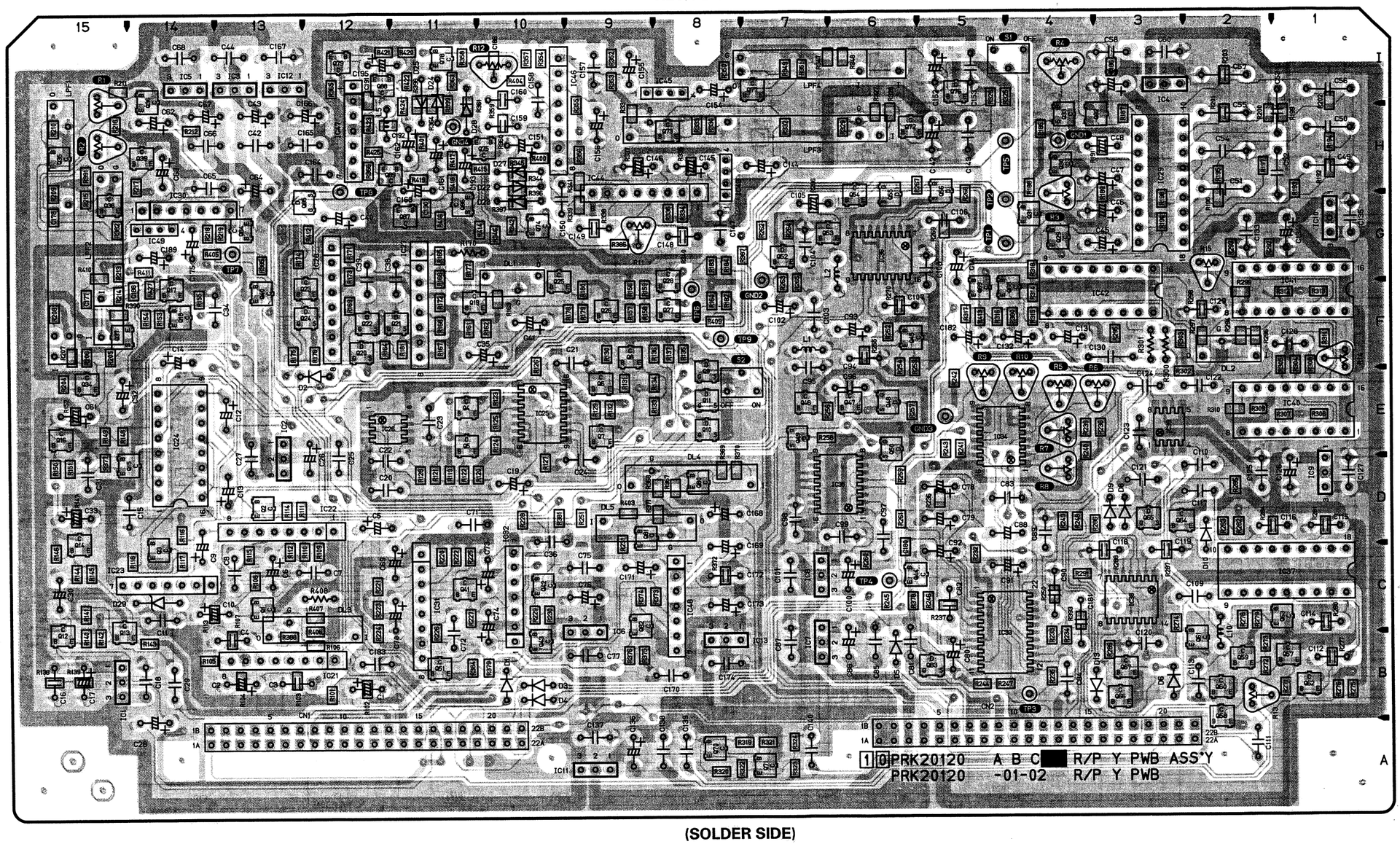
SYMBOL No.		PB
INTEGRATED CIRCUIT		
IC1	1	11.7
	2	0.0
	3	14.7
IC2	1	11.8
	2	0.0
	3	14.7
IC3	1	12.0
	2	0.0
	3	14.7
IC4	1	5.0
	2	0.0
	3	7.9
IC5	1	11.8
	2	0.0
	3	14.7
IC6	1	11.7
	2	0.0
	3	14.7
IC7	1	5.1
	2	0.0
	3	7.9
IC8	1	5.1
	2	0.0
	3	7.9
IC9	1	5.1
	2	0.0
	3	7.9
IC10	1	5.0
	2	0.0
	3	7.9
IC11	1	11.9
	2	0.0
	3	14.7
IC12	1	11.8
	2	0.0
	3	14.7
IC13	1	11.9
	2	0.0
	3	14.7
IC22	1	11.7
	2	3.0
	3	3.0
	4	7.0
	5	2.3
	6	2.3
	7	0.0
	8	1.3
IC23	1	8.2
	2	0.0
	3	9.0
	4	0.0
	5	6.4
	6	8.2
	7	11.7
IC24	1	7.7
	2	7.0
	3	0.1
	4	11.7
	5	7.7
	6	7.0
	7	7.0
	8	7.8
	9	7.7
	10	7.6
	11	0.0
	12	7.7
	13	7.6
	14	0.0
	15	7.6
	16	7.7
IC25	1	5.1
	2	0.0
	3	5.1
	4	5.1
	5	4.7
	6	0.0
	7	0.0
	8	0.0
	9	11.2
	10	11.8
	11	11.6
	12	4.8
	13	9.8
	14	9.7
	15	5.1
	16	11.8
IC26	1	4.8
	2	4.8
	3	4.7
	4	0.0
	5	4.7
	6	4.8
	7	4.8
	8	11.8
IC27	1	9.7
	2	5.2
	3	5.2
	4	8.1
	5	4.5
	6	4.5
	7	0.0
	8	1.1
IC28	1	9.7
	2	12.0
	3	8.8
	4	8.2
	5	8.1
	6	6.5
	7	0.0
	8	5.5
IC29	1	2.0
	2	5.0
	3	3.5
	4	3.5
	5	5.1
	6	2.2
	7	2.0
	8	5.1
	9	1.4
	10	2.9
	11	2.9
	12	2.9
	13	0.0
	14	2.9
	15	2.9
	16	2.0
	17	2.0
	18	2.0
IC31	1	11.7
	2	4.1
	3	4.1
	4	8.4
	5	3.4
	6	3.4
	7	0.0
	8	1.1
IC32	1	8.2
	2	0.0
	3	8.2
	4	0.0
	5	7.1
	6	7.4
	7	11.7
IC36	1	0.0
	2	4.7
	3	5.1
	4	4.7
	5	5.0
	6	0.1
	7	5.0
	8	0.0
	9	5.0
	10	0.1
	11	5.1
	12	5.0
	13	4.7
	14	4.7
	15	0.0
	16	5.1
IC37	1	2.8
	2	0.0
	3	0.9
	4	3.9
	5	3.8
	6	0.1
	7	0.0
	8	0.1
	9	0.1
	10	0.1
	11	0.0
	12	0.1
	13	0.1
	14	3.2
	15	5.0
	16	2.2
	17	3.2
	18	5.1
IC38	1	3.7
	2	3.6
	3	0.0
	4	3.7
	5	3.5
	6	0.1
	7	0.0
	8	0.1
	9	0.1
	10	0.1
	11	0.0
	12	0.1
	13	0.1
	14	5.1
IC39	1	5.1
	2	0.8
	3	2.6
	4	2.6
	5	0.0
	6	2.6
	7	0.0
	8	2.7
IC40	1	5.0
	2	4.1
	3	4.2
	4	4.0
	5	4.0
	6	4.0
	7	4.0
	8	0.0
	9	3.8
	10	3.8
	11	3.8
	12	4.2
	13	4.1
	14	4.2
	15	4.2
	16	5.0
IC41	1	5.0
	2	4.2
	3	4.2
	4	4.2
	5	4.2
	6	4.1
	7	4.1
	8	0.0
	9	4.2
	10	4.2
	11	3.8
	12	3.8
	13	3.8
	14	4.1
	15	4.1
	16	5.0
IC42	1	5.0
	2	3.7
	3	3.9
	4	4.1
	5	3.8
	6	0.0
	7	0.0
	8	0.0
	9	0.0
	10	3.6
	11	4.5
	12	4.5
	13	3.6
	14	0.0
	15	0.0
	16	5.0
IC43	1	6.3
	2	11.8
	3	2.7
	4	0.0
IC44	1	11.8
	2	4.0
	3	4.1
	4	6.2
	5	3.3
	6	3.3
	7	0.0
	8	1.2
IC45	1	6.6
	2	11.8
	3	2.7
	4	0.0
IC46	1	11.8
	2	4.0
	3	4.0
	4	7.4
	5	3.3
	6	3.3
	7	0.0
	8	1.1
IC47	1	8.3
	2	0.0
	3	8.3
	4	0.0
	5	7.1
	6	7.4
	7	11.8
IC48	1	8.3
	2	0.0
	3	8.3
	4	0.0
	5	7.1
	6	7.5
	7	11.9
(SUB DOC PWB)		
IC23	1	-2.5
	2	6.0
	3	1.2
	4	2.1
	5	2.0
	6	2.5
	7	0.0
	8	5.0
	9	5.0
	10	3.8
	11	1.6
	12	1.2
	13	0.0
	14	0.0
IC25	1	8.4
	2	0.0
	3	8.4
	4	0.0
	5	0.0
	6	7.6
	7	12.0

— DC Voltage (2/2) — (R/P Y)

SYMBOL No.		PB	SYMBOL No.		PB	SYMBOL No.		PB	SYMBOL No.		PB	SYMBOL No.		PB
TRANSISTOR			Q27	B	5.3	Q58	B	0.8	Q78	B	8.1	**CONNECTOR**		
Q2	B	7.0		C	12.0		C	1.5		C	11.8	CN1	1A	0.1
	C	11.7		E	4.7		E	0.0		E	7.5		1 B	0.0
	E	6.4	Q28	B	5.3	Q59	B	0.9	Q79	B	7.9		8A	6.8
Q3	B	0.8		C	12.0		C	0.0		C	0.0		8 B	0.0
	C	7.6		E	4.7		E	1.5		E	7.4		20A	0.0
	E	0.0	Q29	B	0.8	Q60	B	0.8	Q80	B	6.1		21A	0.4
Q4	B	5.7		C	5.0		C	4.3		C	11.8		22A	0.2
	C	11.8		E	0.0		E	0.0		E	5.5		22 B	0.2
	E	5.1	Q32	B	1.4	Q61	B	4.3	Q81	B	1.5	CN2	1AB	0.0
Q5	B	5.7		C	0.0		C	0.0		C	0.0		2AB	0.0
	C	11.8		E	2.0		E	0.0		E	2.2		3AB	7.9
	E	5.1	Q33	B	2.6	Q62	B	2.7	Q82	B	7.5		4AB	14.7
Q6	B	5.1		C	5.1		C	0.0		C	11.8		5A	1.7
	C	0.0		E	2.0		E	3.3		E	6.8		5 B	1.6
	E	5.7	Q40	B	0.7	Q63	B	3.9	Q86	B	4.6		9A	4.7
Q7	B	9.7		C	8.7		C	5.1		C	7.8		9 B	0.0
	C	0.0		E	0.0		E	3.3		E	4.0		10A	4.7
	E	5.7	Q41	B	8.4	Q64	B	4.8	Q87	B	4.0		10 B	0.0
Q8	B	5.7		C	11.7		C	5.1		C	11.8		11A	7.0
	C	11.8		E	7.7		E	4.2		E	3.4		11 B	0.0
	E	5.1	Q42	B	7.4	Q65	G	3.7	Q88	B	4.1		13A	*2.1*
Q9	G	0.1		C	11.7		D	0.0		C	8.3		13 B	0.0
	D	11.6		E	6.7		S	0.0		E	3.5		15A	*2.1*
	S	0.0	Q45	B	3.8	Q66	B	0.4	Q89	B	3.5		15 B	0.0
Q10	G	0.0		C	5.1		C	0.0		C	11.8		17A	0.0
	D	11.8		E	3.1		E	0.0		E	2.9		17 B	0.0
	S	0.0	Q46	B	3.1	Q67	B	0.4	Q90	G	0.7		19A	8.7
Q11	G	0.1		C	0.0		C	0.1		D	0.0		19 B	0.0
	D	11.2		E	3.7		E	0.0		S	0.0		20A	0.0
	S	0.0	Q47	B	0.8	Q68	B	2.9	Q91	B	0.3		20 B	0.0
Q17	B	6.6		C	5.1		C	5.0		C	0.0		21A	0.0
	C	0.0		E	3.2		E	2.3		E	0.0		21 B	0.0
	E	7.2	Q48	G	3.2	Q69	B	2.3					22A	4.8
Q18	B	10.4		D	0.8		C	0.0						
	C	11.7		S	0.0		E	3.0						
	E	10.0	Q49	G	0.8	Q70	B	3.1						
Q19	B	5.9		D	4.7		C	6.5						
	C	12.0		S	0.0		E	2.5						
	E	5.3	Q51	B	7.6	Q71	B	6.5						
Q20	G	0.8		C	0.0		C	11.9						
	D	4.4		E	0.0		E	5.9						
	S	0.0	Q52	B	3.0	Q72	B	4.6						
Q21	G	4.4		C	5.1		C	11.8						
	D	0.0		E	2.3		E	4.0						
	S	0.0	Q53	B	2.4	Q73	B	3.4						
Q22	G	0.8		C	0.0		C	5.9						
	D	0.2		E	3.0		E	2.8						
	S	0.0	Q54	B	0.6	Q74	B	6.2						
Q23	B	9.9		C	5.1		C	11.8						
	C	0.0		E	3.9		E	6.3						
	E	0.0	Q55	G	3.9	Q75	B	6.3						
Q24	G	0.5		D	0.6		C	0.0						
	D	9.9		S	0.0		E	5.6						
	S	0.0	Q56	G	0.6	Q76	B	4.6						
Q25	B	5.2		D	4.6		C	11.8						
	C	12.0		S	0.0		E	4.0						
	E	4.6	Q57	B	1.5	Q77	B	2.0						
Q26	B	4.7		C	5.1		C	8.9						
	C	0.0		E	0.9		E	1.4						
	E	5.3												

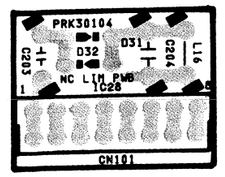
[BR-S522E]

— REC/PB Y —

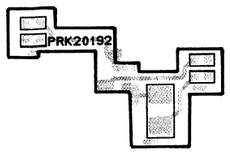


(SOLDER SIDE)

— NC LIM —

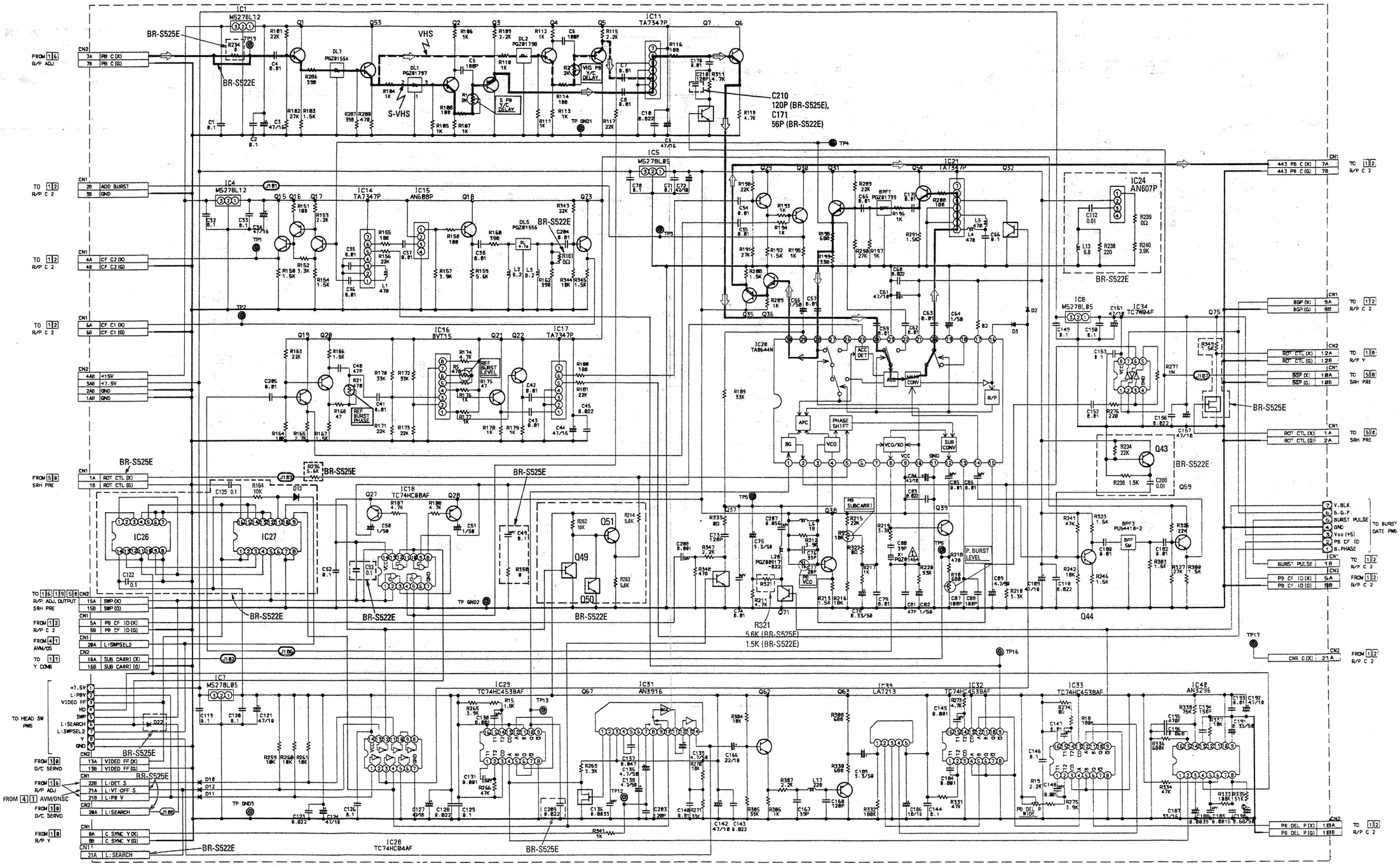


— R/P Y SUB-1 —

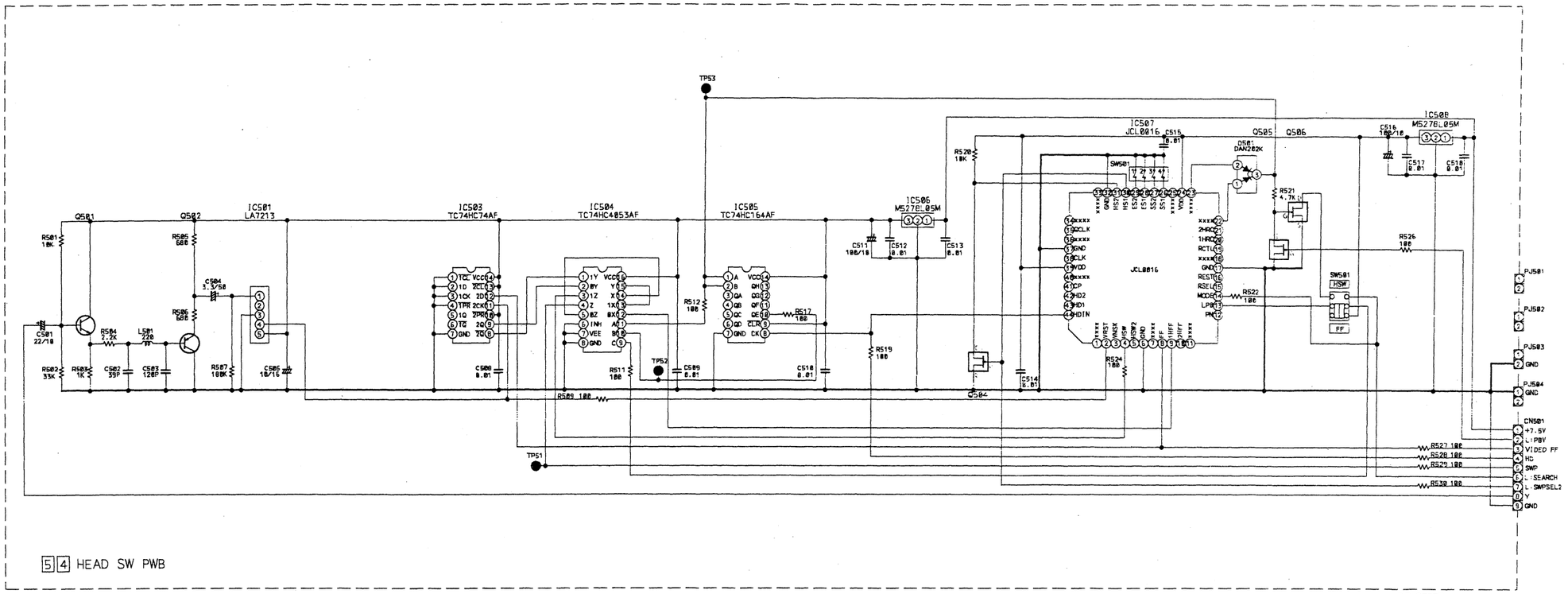


4.32 REC/PB COLOR SCHEMATIC DIAGRAM

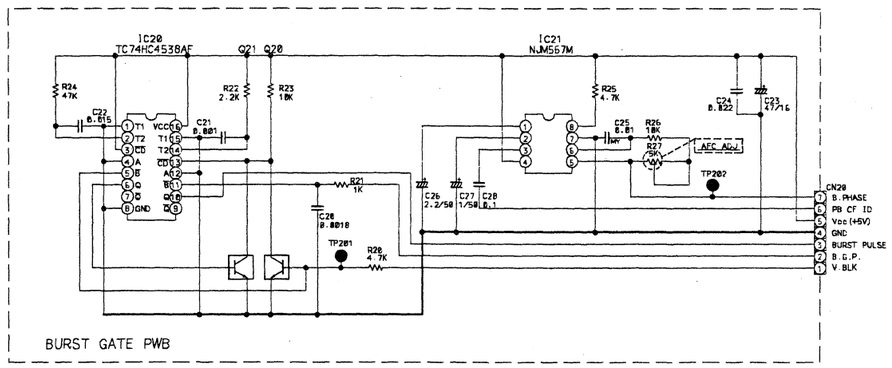
— DIAGRAM (1/2) —



— DIAGRAM (2/2) —



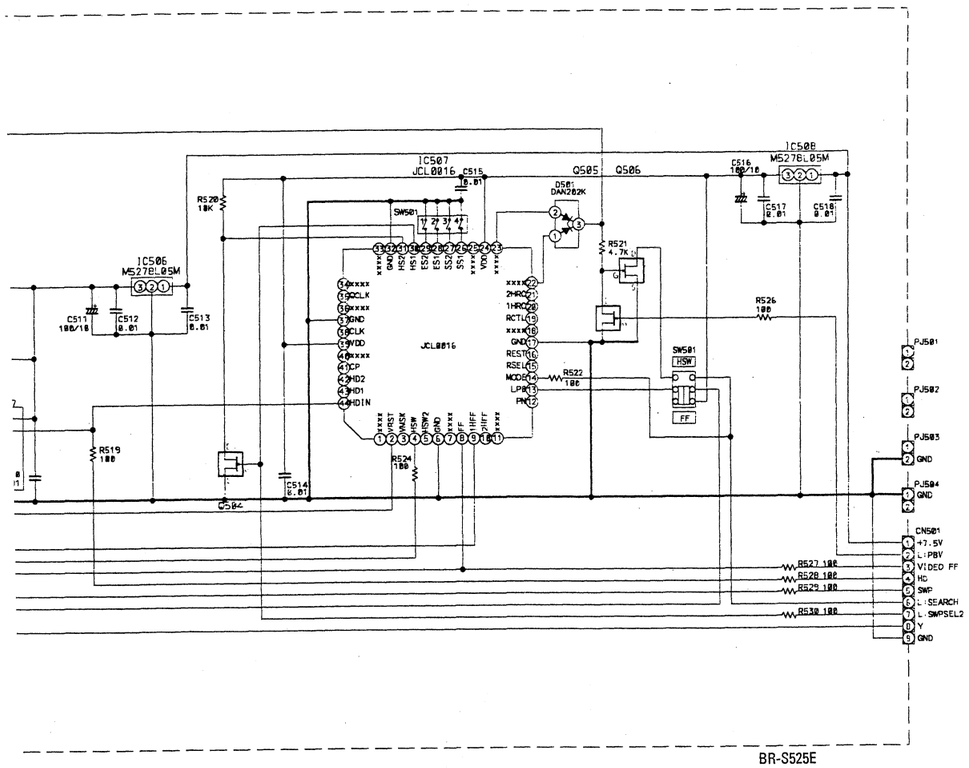
BR-S525E



— DC Voltage (1/2) — (R/P COLOR)

SYMBOL No.		PB	SYMBOL No.		PB	SYMBOL No.		PB	SYMBOL No.		PB	SYMBOL No.		PB	SYMBOL No.		PB
INTEGRATED CIRCUIT			IC15	1	7.0	IC18	13	*2.3*	IC20	29	2.0	IC29	9	4.7	IC32	10	0.3
IC1	1	11.9		2	11.8		14	5.0		30	2.9		10	0.4		11	5.0
	2	0.0		3	2.7	IC20	1	0.4	IC21	1	3.2		11	5.0		12	3.0
	3	14.7		4	0.0		2	3.8		2	0.0		12	3.1		13	5.0
IC4	1	11.8	IC16	1	9.4		3	5.0		3	3.2		13	5.0		14	4.7
	2	0.0		2	4.5		4	2.0		4	0.0		14	4.6		15	0.0
	3	14.7		3	4.5		5	*2.0*		5	0.0		15	0.0		16	5.0
IC5	1	5.0		4	9.6		6	4.6		6	3.0		16	5.0	IC33	1	0.0
	2	0.0		5	3.8		7	2.0		7	5.0	IC 31	1	4.1		2	4.7
	3	7.9		6	3.8		8	2.5	IC28	1	0.7		2	3.0		3	5.0
IC7	1	5.0		7	0.0		9	5.0		2	5.0		3	5.0		4	3.0
	2	0.0		8	1.2		10	3.1		3	5.0		4	1.9		5	5.0
	3	7.9	IC17	1	8.2		11	0.0		4	0.0		5	1.5		6	0.3
IC8	1	5.1		2	0.0		12	4.4		5	0.0		6	2.2		7	4.7
	2	0.0		3	8.2		13	3.1		6	5.0		7	3.0		8	0.0
	3	7.9		4	0.0		14	2.7		7	0.0		8	0.0		9	4.7
IC11	1	8.3		5	2.2		15	3.5		8	0.0		9	3.0		10	0.3
	2	0.0		6	7.4		16	4.3		9	5.0		10	0.0		11	5.0
	3	8.3		7	11.8		17	5.0		10	5.0		11	2.6		12	0.0
	4	0.0	IC18	1	*3.7*		18	2.5		11	0.7		12	3.1		13	5.0
	5	0.0		2	*3.7*		19	3.0		12	0.0		13	3.3		14	4.6
	6	7.5		3	2.7		20	2.7		13	5.0		14	1.9		15	0.0
	7	11.9		4	0.0		21	5.0		14	5.0	IC 32	1	0.0		16	5.0
IC14	1	8.2		5	0.0		22	1.7	IC29	1	0.0		2	2.7	IC34	1	0.4
	2	0.0		6	5.0		23	0.0		2	2.6		3	5.0		2	0.4
	3	8.2		7	0.0		24	2.7		3	5.0		4	3.0		3	2.6
	4	0.0		8	5.1		25	3.6		4	0.4		5	4.4		4	0.0
	5	4.1		9	*2.3*		26	2.4		5	1.9		6	3.0		5	2.5
	6	7.4		10	4.9		27	0.0		6	3.1		7	2.0		6	3.8
	7	11.8		11	*2.3*		28	2.7		7	1.9		8	0.0		7	4.7
				12	4.9					8	0.0		9	4.7		8	5.1

4-39



BR-S525E

— DC Voltage (1/2) — (R/P COLOR)

SYMBOL No.		PB	SYMBOL No.		PB	SYMBOL No.		PB	SYMBOL No.		PB	SYMBOL No.		PB	SYMBOL No.		PB
INTEGRATED CIRCUIT			IC15	1	7.0	IC18	13	*2.3*	IC20	29	2.0	IC29	9	4.7	IC32	10	0.3
IC1	1	11.9		2	11.8		14	5.0		30	2.9		10	0.4		11	5.0
	2	0.0		3	2.7	IC20	1	0.4	IC21	1	3.2		11	5.0		12	3.0
	3	14.7		4	0.0		2	3.8		2	0.0		12	3.1		13	5.0
IC4	1	11.8	IC16	1	9.4		3	5.0		3	3.2		13	5.0		14	4.7
	2	0.0		2	4.5		4	2.0		4	0.0		14	4.6		15	0.0
	3	14.7		3	4.5		5	*2.0*		5	0.0		15	0.0		16	5.0
IC5	1	5.0		4	9.6		6	4.6		6	3.0		16	5.0	IC33	1	0.0
	2	0.0		5	3.8		7	2.0		7	5.0	IC 31	1	4.1		2	4.7
	3	7.9		6	3.8		8	2.5	IC28	1	0.7		2	3.0		3	5.0
IC7	1	5.0		7	0.0		9	5.0		2	5.0		3	5.0		4	3.0
	2	0.0		8	1.2		10	3.1		3	5.0		4	1.9		5	5.0
	3	7.9	IC17	1	8.2		11	0.0		4	0.0		5	1.5		6	0.3
IC8	1	5.1		2	0.0		12	4.4		5	0.0		6	2.2		7	4.7
	2	0.0		3	8.2		13	3.1		6	5.0		7	3.0		8	0.0
	3	7.9		4	0.0		14	2.7		7	0.0		8	0.0		9	4.7
IC11	1	8.3		5	2.2		15	3.5		8	0.0		9	3.0		10	0.3
	2	0.0		6	7.4		16	4.3		9	5.0		10	0.0		11	5.0
	3	8.3		7	11.8		17	5.0		10	5.0		11	2.6		12	0.0
	4	0.0	IC18	1	*3.7*		18	2.5		11	0.7		12	3.1		13	5.0
	5	0.0		2	*3.7*		19	3.0		12	0.0		13	3.3		14	4.6
	6	7.5		3	2.7		20	2.7		13	5.0		14	1.9		15	0.0
	7	11.9		4	0.0		21	5.0		14	5.0	IC 32	1	0.0		16	5.0
IC14	1	8.2		5	0.0		22	1.7	IC29	1	0.0		2	2.7	IC34	1	0.4
	2	0.0		6	5.0		23	0.0		2	2.6		3	5.0		2	0.4
	3	8.2		7	0.0		24	2.7		3	5.0		4	3.0		3	2.6
	4	0.0		8	5.1		25	3.6		4	0.4		5	4.4		4	0.0
	5	4.1		9	*2.3*		26	2.4		5	1.9		6	3.0		5	2.5
	6	7.4		10	4.9		27	0.0		6	3.1		7	2.0		6	3.8
	7	11.8		11	*2.3*		28	2.7		7	1.9		8	0.0		7	4.7
				12	4.9					8	0.0		9	4.7		8	5.1

— DC Voltage (2/2) — (R/P COLOR)

SYMBOL No.		PB	SYMBOL No.		PB	SYMBOL No.		PB
IC39	1	2.8	IC503	11	5.1	IC507	26	0.0
	2	4.4		12	*2.1*		27	5.1
	3	0.0		13	5.1		28	5.1
	4	5.0		14	5.1		29	0.0
	5	5.0	IC504	1	*2.2*		30	0.5
IC 40	1	0.0		2	*2.1*		31	5.1
	2	0.4		3	*2.2*		32	0.0
	3	4.1		4	*2.1*		33	0.0
	4	4.1		5	*2.2*		34	0.0
	5	5.0		6	*2.2*		35	0.0
	6	2.9		7	0.0		36	0.0
	7	0.0		8	0.0		37	0.0
	8	*3.0*		9	0.0		38	5.1
	9	0.4		10	0.1		39	5.1
	10	5.0		11	0.1		40	0.0
	11	*1.2*		12	*2.2*		41	0.0
	12	0.7		13	*2.2*		42	5.1
	13	0.0		14	*2.2*		43	0.0
	14	0.6		15	*2.2*		44	4.1
	15	0.0		16	5.1			
	16	4.2	IC505	1	0.2			
(BURST GATE PWB)				2	0.2			
IC 20	1	0.0		3	0.2			
	2	4.9		4	0.2			
	3	5.0		5	0.2			
	4	0.0		6	0.2			
	5	4.3		7	0.0			
	6	0.1		8	4.1			
	7	5.0		9	5.1			
	8	0.0		10	0.2			
	9	5.0		11	0.2			
	10	0.0		12	0.2			
	11	4.7		13	0.2			
	12	0.0		14	5.1			
	13	0.2	IC506	1	7.9			
	14	5.1		2	0.0			
	15	0.0		3	5.1			
	16	5.1	IC507	1	0.0			
IC 21	1	3.3		2	5.1			
	2	3.9		3	0.3			
	3	0.6		4	*2.2*			
	4	5.1		5	*2.2*			
	5	2.4		6	0.0			
	6	2.3		7	5.1			
	7	0.0		8	*2.1*			
	8	0.0		9	*2.2*			
(HEAD SW PWB)				10	*2.2*			
IC501	1	2.8		11	0.0			
	2	4.5		12	5.1			
	3	0.0		13	5.1			
	4	5.1		14	5.1			
	5	5.1		15	5.1			
IC503	1	0.0		16	5.1			
	2	0.0		17	0.0			
	3	0.0		18	0.0			
	4	0.0		19	5.1			
	5	5.1		20	5.1			
	6	5.1		21	5.1			
	7	0.0		22	0.1			
	8	*2.2*		23	0.0			
	9	*2.2*		24	5.1			
	10	5.1		25	0.0			

SYMBOL No.		PB
TRANSISTOR		
Q1	B	6.0
	C	11.9
	E	5.4
Q2	B	1.0
	C	11.5
	E	0.4
Q3	B	0.4
	C	0.0
	E	1.1
Q4	B	1.0
	C	11.5
	E	0.4
Q5	B	0.4
	C	0.0
	E	1.1
Q6	B	7.5
	C	11.9
	E	6.9
Q7	B	0.4
	C	0.0
	E	0.0
Q15	B	4.0
	C	11.8
	E	3.5
Q16	B	11.1
	C	4.0
	E	11.7
Q17	B	2.1
	C	11.1
	E	1.5
Q18	B	7.0
	C	11.8
	E	6.4
Q19	B	3.7
	C	11.8
	E	3.1
Q20	B	3.7
	C	8.7
	E	3.1
Q21	B	9.6
	C	11.8
	E	8.9
Q22	B	9.4
	C	11.8
	E	8.7
Q27	B	4.7
	C	4.9
	E	5.0
Q28	B	4.7
	C	5.0
	E	5.0
Q29	B	2.7
	C	5.0
	E	2.1
Q30	B	2.0
	C	5.0
	E	1.4
Q31	B	2.7
	C	5.0
	E	2.1

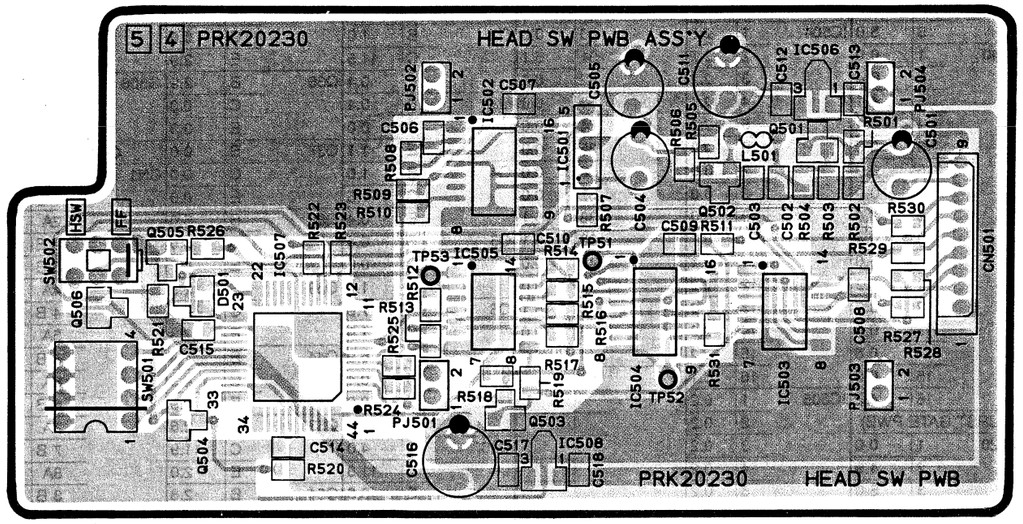
SYMBOL No.		PB
Q32	B	4.5
	C	0.0
	E	0.0
Q35	B	3.3
	C	5.0
	E	2.9
Q36	B	2.9
	C	0.0
	E	3.3
Q37	B	0.0
Q4	B	1.0
	C	11.5
	E	0.0
Q38	B	5.0
	C	5.0
	E	4.7
Q39	B	2.5
	C	5.0
	E	2.3
Q44	B	1.4
	C	4.3
	E	0.9
Q53	B	2.6
	C	11.9
	E	2.0
Q54	B	2.8
	C	5.0
	E	2.3
Q59	B	6.3
	C	11.8
	E	5.6
Q62	B	3.7
	C	5.0
	E	3.1
Q63	B	3.1
	C	0.0
	E	3.7
Q67	B	4.1
	C	0.5
	E	0.0
Q71	B	4.7
	C	0.0
	E	0.0
Q73	B	3.7
	C	11.8
	E	3.1
Q75	G	0.0
	D	0.1
	S	5.0
(BURST GATE PWB)		
Q20	B	4.3
	C	0.2
	E	0.0
Q21	B	0.1
	C	0.2
	E	0.0
(HEAD SW PWB)		
Q501	B	3.9
	C	5.1
	E	3.2
Q502	B	3.3
	C	0.0
	E	3.9

SYMBOL No.		PB
Q504	G	0.5
	D	5.1
	S	0.0
Q505	G	0.1
	D	0.1
	S	0.0
Q506	G	0.1
	D	0.0
	S	0.0
CONNECTOR		
CN1	1A	*2.2*
	1 B	0.0
	2A	0.0
	2 B	1.5
	3 B	0.0
	4A	3.2
	4 B	0.0
	5A	2.6
	5 B	0.0
	6A	3.0
	6 B	0.0
	7A	2.9
	7 B	0.0
	8A	6.9
	8 B	0.0
	9A	4.7
	9 B	0.0
	10A	0.4
	10 B	0.0
	20A	0.5
	21A	6.0
	22A	0.2
	22 B	0.2
CN2	1AB	0.0
	2AB	0.0
	3AB	7.9
	4AB	14.7
	5A	2.6
	5 B	0.0
	7A	4.8
	7 B	0.0
	12A	*2.1*
	12 B	0.0
	13A	*2.1*
	13 B	0.0
	15A	2.9
	15 B	0.0
	16A	2.3
	16 B	0.0
	18A	0.3
	18 B	0.0
	20A	4.8
	21A	6.9

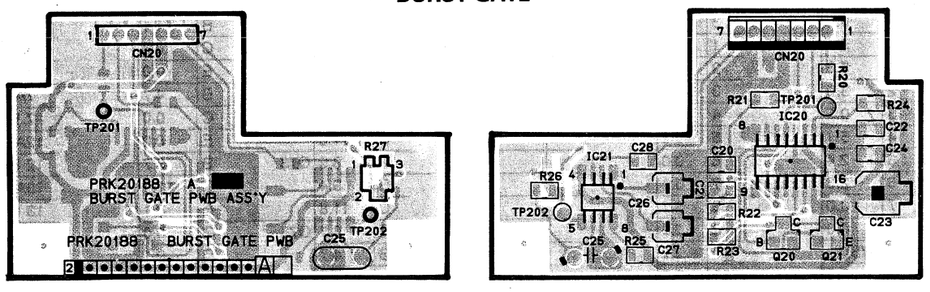
4.33 REC/PB CIRCUIT BOARD

— HEAD SWITCH —

(PARTS SIDE)



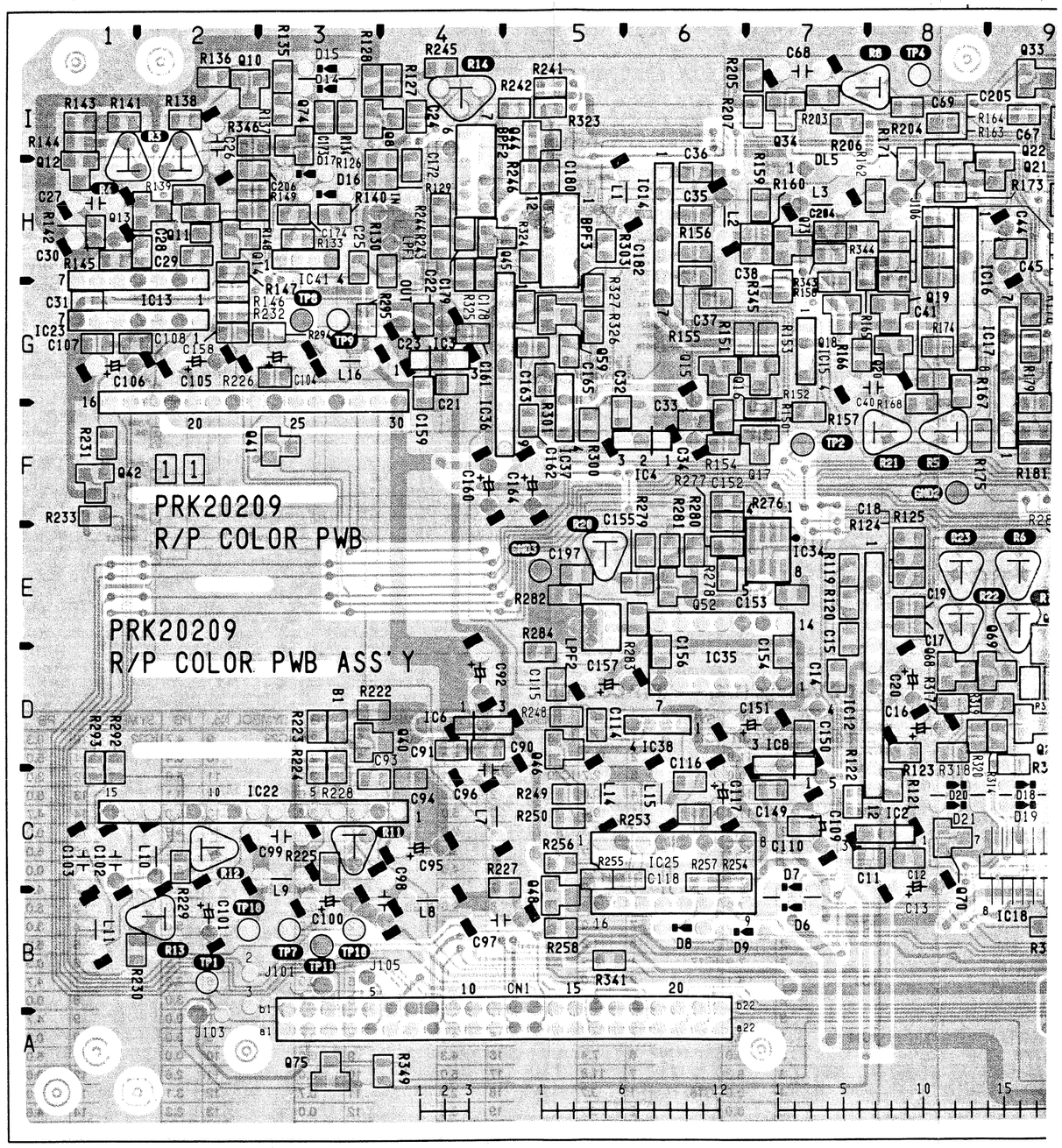
— BURST GATE —



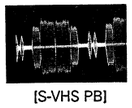
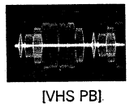
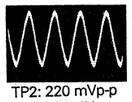
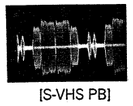
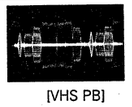
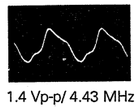
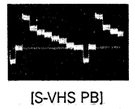
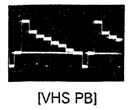
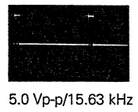
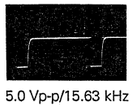
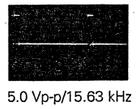
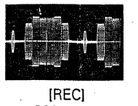
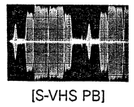
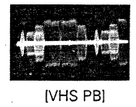
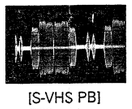
[BR-S525E]

— REC/PB COLOR —

(SOLDER SIDE)



— MAIN WAVEFORMS OF REC/PB COLOR CIRCUIT —

TP1	TP2, TP3	TP4	TP6	TP12	TP13	TP14	TP16	TP17	TP19
 [S-VHS PB]  [VHS PB] 440 mVp-p: Brust level	 TP2: 220 mVp-p /4.43 MHz TP3: 130 mVp-p /4.43 MHz	 [S-VHS PB]  [VHS PB] 150 mVp-p: Burst level	 1.4 Vp-p/ 4.43 MHz	 [S-VHS PB] 190 mVp-p  [VHS PB] 500 mVp-p	 5.0 Vp-p/15.63 kHz	 5.0 Vp-p/15.63 kHz	 5.0 Vp-p/15.63 kHz	 [REC] 260 mVp-p : Burst level  [S-VHS PB]  [VHS PB] 290 mVp-p: Burst level	 [S-VHS PB] 570 mVp-p : Burst level

(SOLDER SIDE)

PRK20209
R/P COLOR PWB

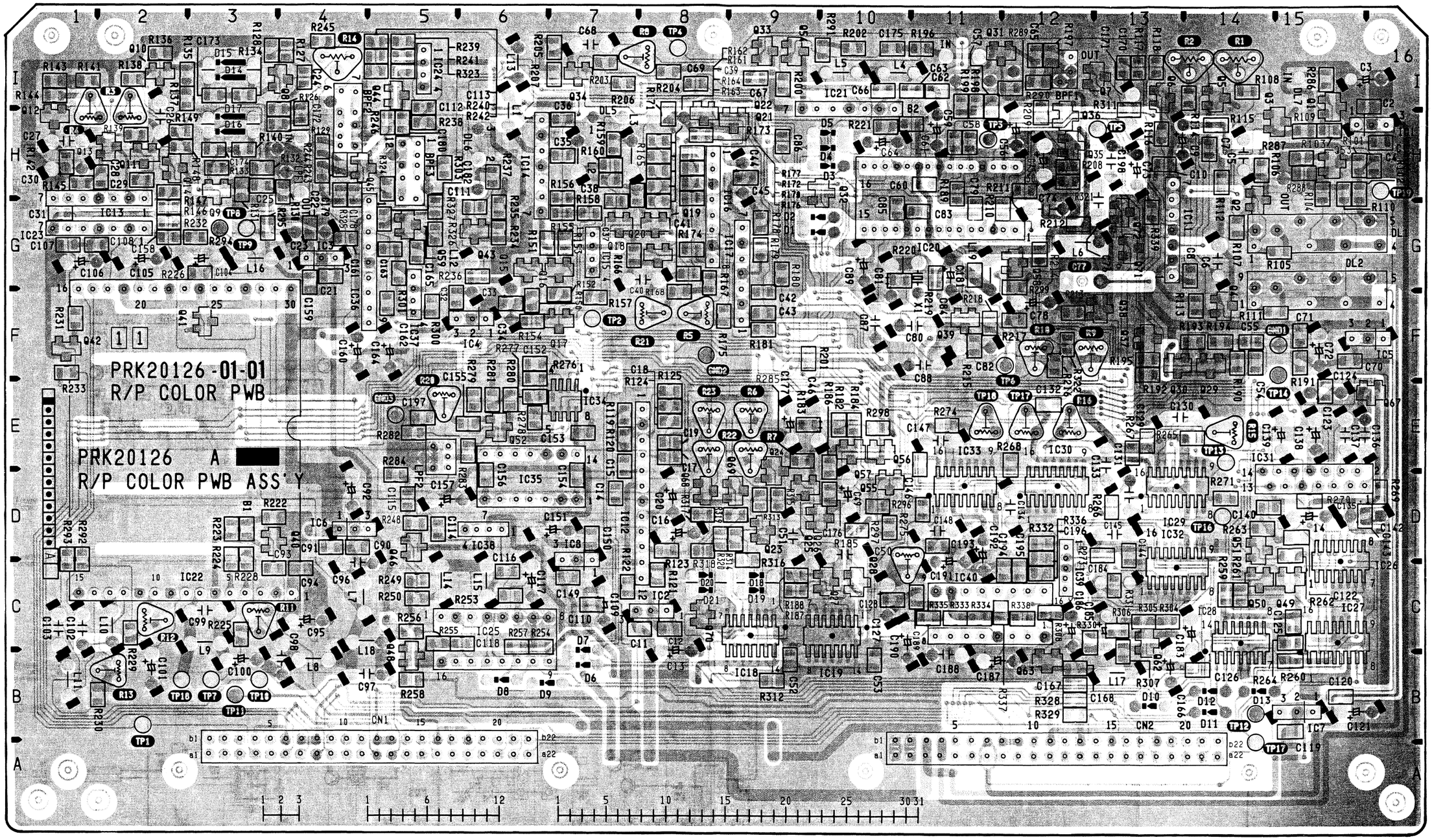
PRK20209
R/P COLOR PWB ASS'Y

	TP13	TP14	TP16	TP17			TP19		TP201	TP202	TP51	TP52, TP53
	5.0 Vp-p/15.63 kHz	5.0 Vp-p/15.63 kHz	5.0 Vp-p/15.63 kHz	[REC] 260 mVp-p : Burst level	[S-VHS PB]	[VHS PB]	[S-VHS PB] 570 mVp-p : Burst level	[VHS PB] 820 mVp-p : Burst level	4.5 Vp-p/50 Hz	3.8 Vp-p/7.812 kHz	5.0 Vp-p/50 Hz	TP52 : 5.0 Vp-p/50 Hz TP53 : 4.7 Vp-p/50 Hz
					290 mVp-p: Burst level							

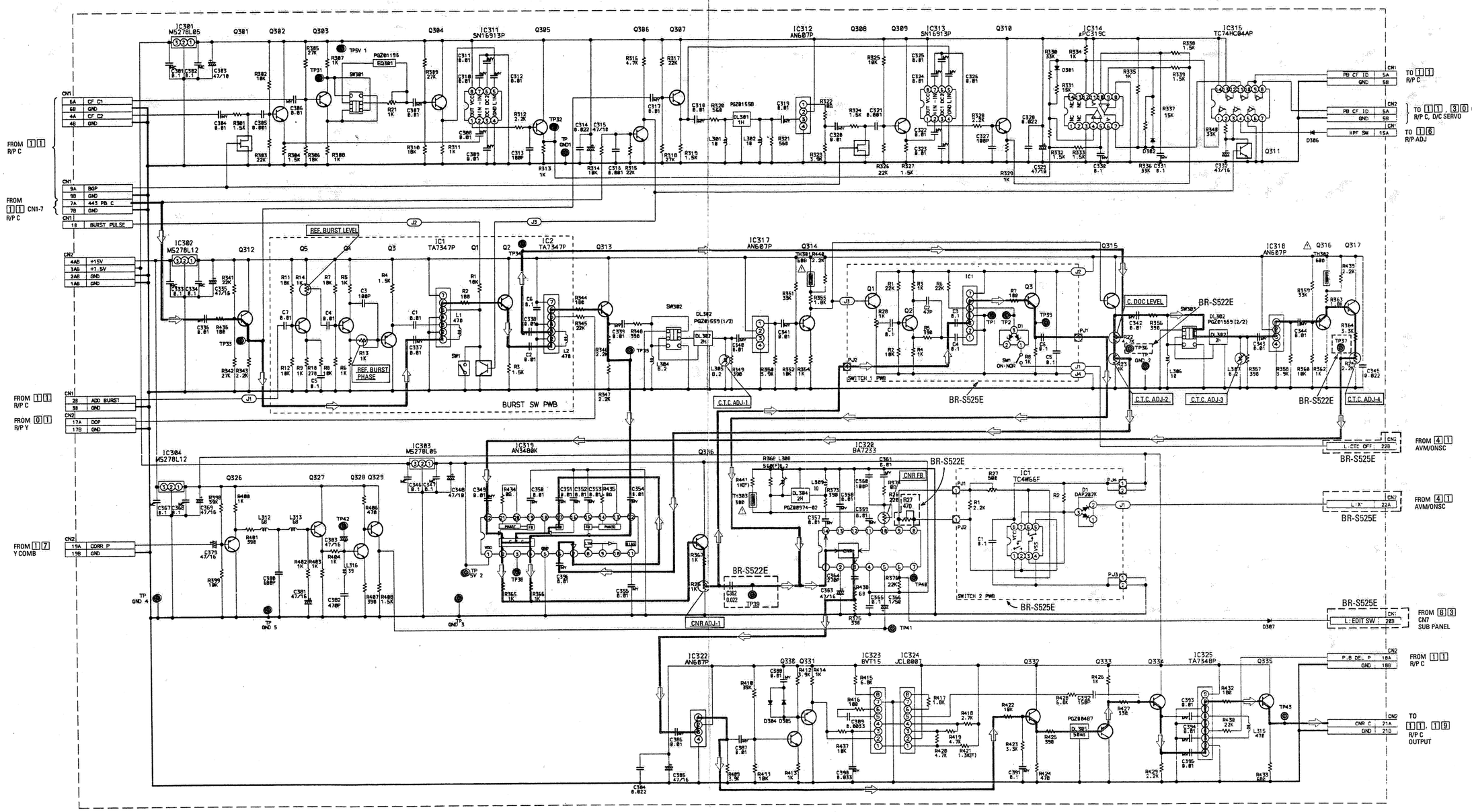
[BR-S522E]

— REC/PB COLOR —

(SOLDER SIDE)

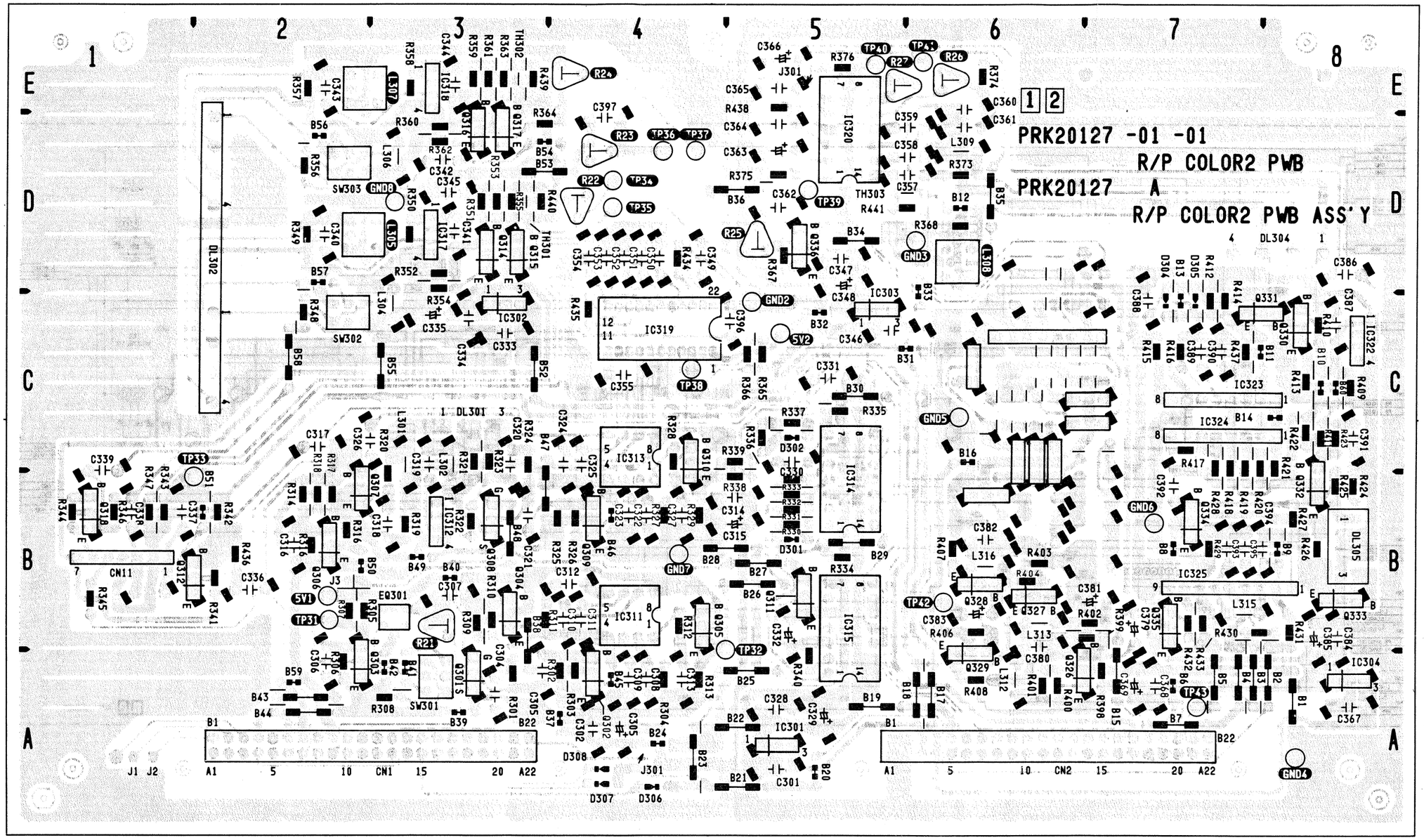


4.34 REC/PB COLOR-2 SCHEMATIC DIAGRAM

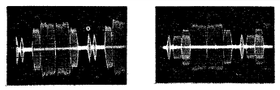
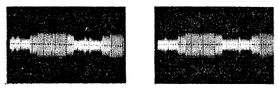
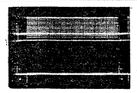
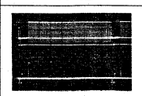
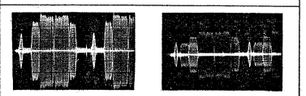


4.35 REC/PB COLOR-2 CIRCUIT BOARD

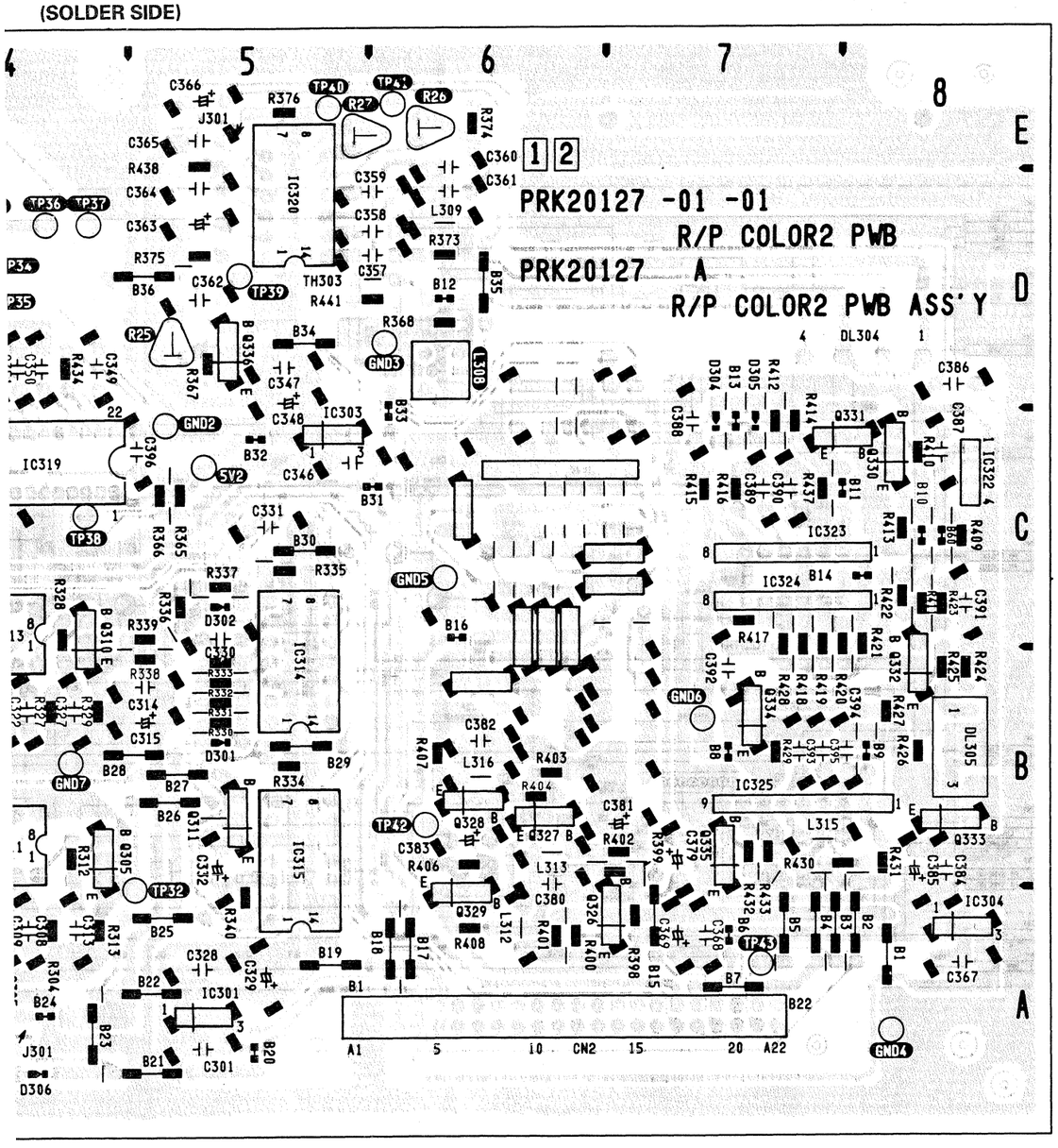
(SOLDER SIDE)

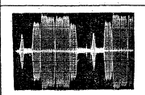
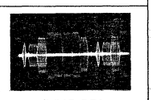


— MAINWAVEFORMS OF REC/PB COLOR-2 CIRCUIT —

TP33 ~ TP35, TP37 ~ TP39	TP36	TP41	TP42	TP43
 [S-VHS PB] [VHS PB] TP33 360 mVp-p: Burst level TP34 420 mVp-p: Burst level TP35 140 mVp-p: Burst level TP37 120 mVp-p: Burst level TP38 55 mVp-p: Burst level TP39 140 mVp-p: Burst level	 [S-VHS PB] [VHS PB] 55 mVp-p	 UPPER: VIDEO OUT LOWER: TP41	 UPPER: VIDEO OUT LOWER: TP42	 [S-VHS PB] [VHS PB] 300 mVp-p: Burst level

(SOLDER SIDE)



I2	TP43	
		
DEO OUT : TP42	[S-VHS PB]	[VHS PB]
	300 mVp-p: Burst level	

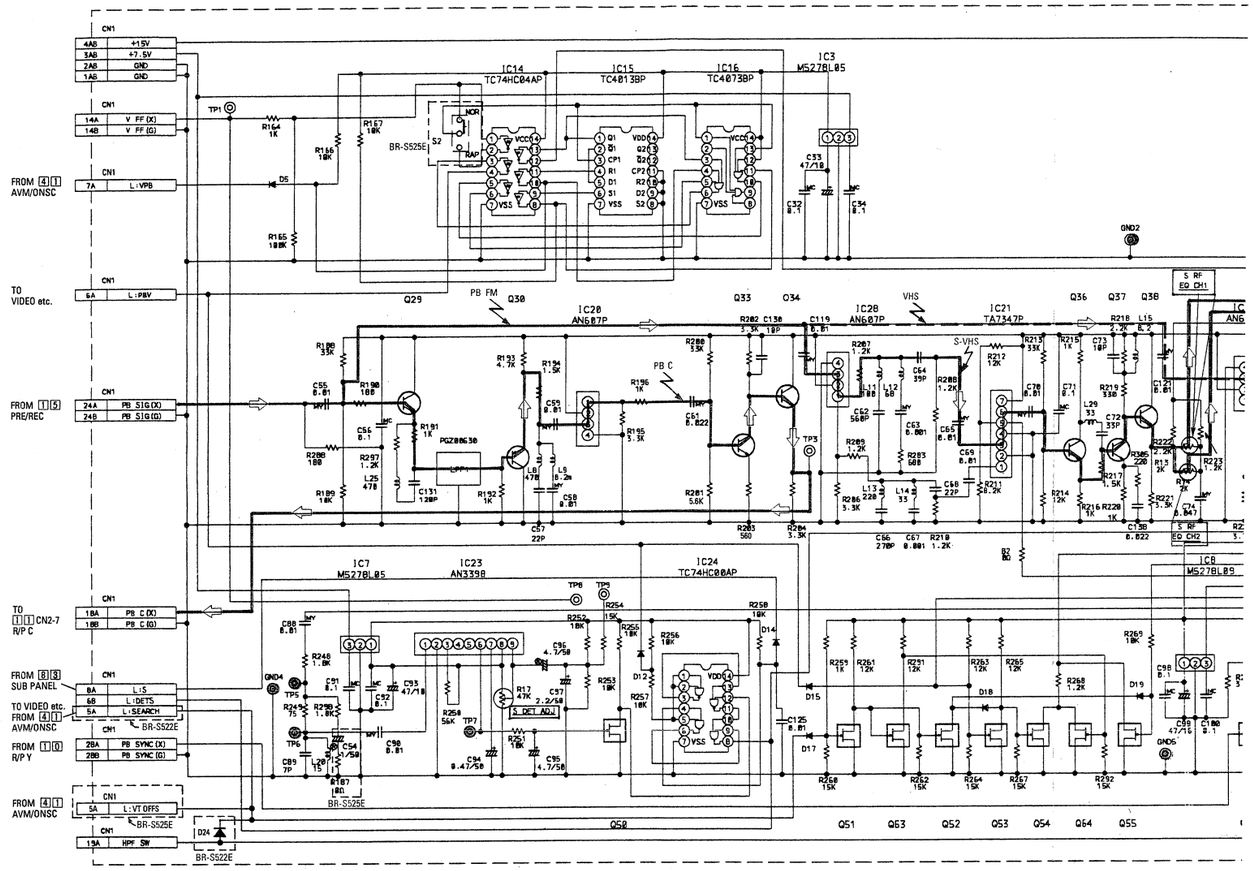
— DC Votage — (R/P COLOR-2)

SYMBOL No.		PB	SYMBOL No.		PB	SYMBOL No.		PB	SYMBOL No.		PB	SYMBOL No.		PB	SYMBOL No.		PB
INTEGRATED CIRCUIT			IC317	1	6.6	IC324	6	6.4	TRANSISTOR			Q329	B	9.4	CONNECTOR		
IC301	1	5.1		2	11.8		7	0.0	Q301	G	4.7		C	11.8	CN1	1 B	0.0
	2	0.0		3	2.7		8	5.4		D	0.0		E	8.8		2 B	1.6
	3	7.9		4	0.0	IC325	1	8.3		S	0.0	Q330	B	2.4		3 B	0.0
IC302	1	11.8	IC318	1	6.4		2	0.0	Q302	B	3.4		C	4.9		4A	3.5
	2	0.0		2	11.8		3	8.3		C	5.1		E	2.1		4 B	0.0
	3	14.7		3	2.7		4	0.3		E	2.6	Q331	B	4.9		5A	2.5
IC303	1	5.0		4	0.0		5	0.0	Q303	B	2.0		C	0.0		5 B	0.0
	2	0.0	IC319	1	5.0		6	8.3		C	3.7		E	5.4		6 A	3.1
	3	7.9		2	2.0		7	0.0		E	1.4	Q332	B	5.9		6 B	0.0
IC304	1	11.8		3	3.6		8	7.5	Q304	B	2.0		C	11.8		7A	2.9
	2	0.0		4	2.5		9	11.8		C	5.1		E	5.3		7 B	0.0
	3	14.7		5	0.0	(BURST SW PWB)				E	1.4	Q333	B	5.3		9A	4.7
IC311	1	4.3		6	3.4	IC 1	1	8.2	Q305	B	4.3		C	0.0		9 B	0.0
	2	2.5		7	2.4		2	0.0		C	5.1		E	5.9		15A	4.6
	3	1.9		8	4.0		3	8.2		E	3.6	Q334	B	5.9		20 B	0.0
	4	0.0		9	2.5		4	0.0	Q306	B	0.6		C	11.8	CN2	1AB	0.0
	5	1.9		10	3.0		5	0.0		C	0.0		E	5.4		2AB	0.0
	6	2.5		11	2.2		6	7.4		E	0.0	Q335	B	7.5		3AB	7.9
	7	2.5		12	3.3		7	11.8	Q307	B	2.7		C	11.8		4AB	14.7
	8	5.1		13	2.6	IC 2	1	8.3		C	5.1		E	6.8		5A	2.6
IC312	1	3.1		14	2.6		2	0.0		E	2.2	Q336	B	2.3		5 B	0.0
	2	5.1		15	2.3		3	8.3	Q308	G	4.7		C	5.0		17A	0.0
	3	1.7		16	2.3		4	0.0		D	0.0		E	1.9		17 B	0.0
	4	0.0		17	2.7		5	0.0		S	0.0	(SWITCH 1 PWB)				18A	0.3
IC313	1	4.3		18	2.1		6	7.5	Q309	B	3.4	Q 1	B	7.4		18 B	0.0
	2	2.5		19	2.3		7	11.8		C	5.1		C	11.9		19A	7.0
	3	1.9		20	2.6	(SWITCH 1 PWB)				E	2.8		E	6.8		19 B	0.0
	4	0.0		21	2.6	IC 1	1	8.4	Q310	B	4.2	Q 2	B	5.3		21A	6.8
	5	1.9		22	3.3		2	0.0		C	5.1		C	7.3		21 B	0.0
	6	2.5	IC320	1	3.3		3	8.3		E	3.6		E	4.6		22A	0.0
	7	2.5		2	2.7		4	0.0	Q311	B	0.0	Q 3	B	7.5		22 B	0.0
	8	5.1		3	3.6		5	7.8		C	0.0		C	11.9			
IC314	1	0.0		4	5.0		6	7.5		E	0.0		E	6.9			
	2	0.0		5	3.3		7	11.9	Q312	B	6.4						
	3	0.0		6	0.5	(SWITCH 2 PWB)				C	11.8						
	4	3.8		7	3.0	IC 1	1	2.0		E	5.9						
	5	3.6		8	2.0		2	2.0	Q313	B	7.4						
	6	0.0		9	1.9		3	11.8		C	11.8						
	7	2.7		10	2.0		4	0.0		E	6.9						
	8	0.0		11	3.3		5	2.0	Q314	B	2.7						
	9	3.6		12	0.0		6	2.0		C	7.2						
	10	3.6		13	1.9		7	11.7		E	2.1						
	11	5.1		14	2.3		8	11.8	Q315	B	7.2						
	12	5.0	IC322	1	6.5					C	11.8						
	13	0.0		2	11.8					E	6.7						
	14	0.0		3	2.7				Q316	B	2.7						
IC315	1	5.0		4	0.0					C	7.5						
	2	0.0	IC323	1	9.5					E	2.1						
	3	0.0		2	5.4				Q317	B	7.5						
	4	5.1		3	5.4					C	11.8						
	5	0.0		4	8.0					E	7.1						
	6	5.1		5	4.8				Q326	B	2.6						
	7	0.0		6	5.1					C	0.0						
	8	2.6		7	0.0					E	3.2						
	9	2.5		8	1.1				Q327	B	3.2						
	10	2.5	IC324	1	9.5					C	11.8						
	11	2.7		2	11.8					E	2.6						
	12	0.0		3	8.7				Q328	B	2.6						
	13	5.1		4	8.0					C	9.4						
	14	5.1		5	8.0					E	2.0						

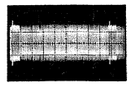
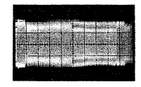
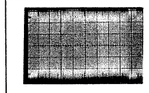
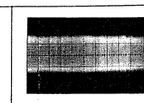
— DC Voltage — (R/P ADJUST)

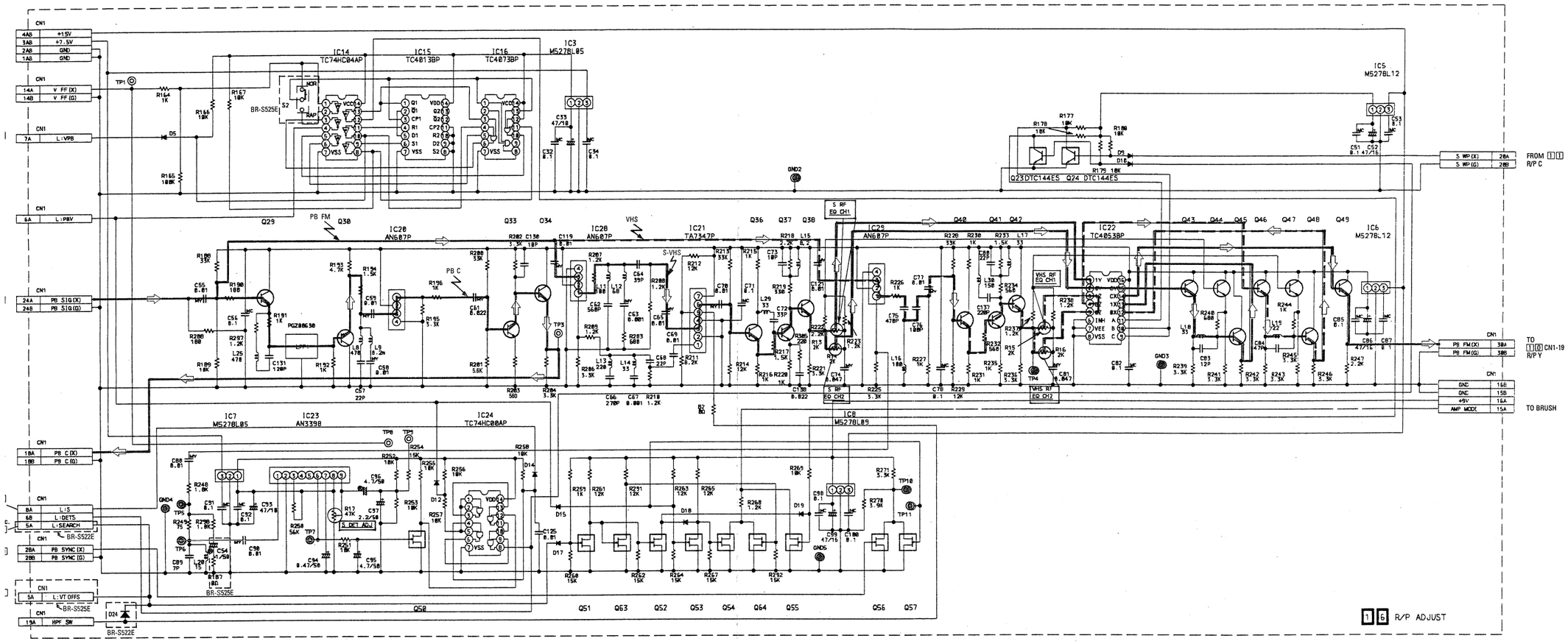
SYMBOL No.	PB	SYMBOL No.	PB	SYMBOL No.	PB	SYMBOL No.	PB	SYMBOL No.	PB
INTEGRATED CIRCUIT		IC20 1	6.2	**TRANSISTOR**		Q51 G	6.6	**CONNECTOR**	
IC3 1	5.0	2	11.8	Q23 G	0.7	D	0.0	CN1 1AB	0.0
2	0.0	3	2.7	D	11.9	S	0.0	2AB	0.0
3	8.0	4	0.0	S	0.0	Q52 G	0.0	3AB	8.0
IC5 1	11.9	IC21 1	11.8	Q24 G	*2.2*	D	4.4	4AB	14.7
2	0.0	2	7.5	D	*5.5*	S	0.0	5A	6.0
3	14.7	3	4.6	S	0.0	Q53 G	0.7	6A	0.2
IC6 1	11.8	4	0.0	Q29 B	4.1	D	4.6	6 B	0.2
2	0.0	5	8.3	C	11.8	S	0.0	7A	0.6
3	14.7	6	0.0	E	3.5	Q54 G	4.6	8A	4.9
IC7 1	5.1	7	–	Q30 B	1.7	D	0.1	14A	*2.1*
2	0.0	IC22 1	10.6	C	0.0	S	0.0	14 B	0.0
3	8.0	2	10.6	E	2.4	Q55 G	0.0	15A	0.0
IC8 1	8.7	3	10.1	Q33 B	1.2	D	4.5	15 B	0.0
2	0.0	4	10.1	C	5.8	S	0.0	16A	8.7
3	14.7	5	10.1	E	0.6	Q56 G	4.7	16 B	0.0
IC14 1	*2.1*	6	0.0	Q34 B	5.8	D	0.4	17A	0.5
2	*2.2*	7	0.0	C	11.8	S	0.0	17 B	0.4
3	5.0	8	0.0	E	5.2	Q57 G	0.7	18A	5.1
4	0.2	9	*5.5*	Q36 B	3.1	D	0.4	18 B	0.0
5	0.0	10	*5.5*	C	9.4	S	0.0	19A	4.6
6	5.0	11	11.8	E	2.5	Q63 G	0.0	19 B	0.0
7	0.0	12	8.9	Q37 B	2.5	D	4.6	20A	*2.2*
8	0.0	13	9.3	C	11.2	S	0.0	20 B	0.0
9	5.0	14	9.3	E	1.9	Q64 G	4.6	21AB	0.0
10	5.0	15	10.6	Q38 B	11.2	D	0.1	22A	0.0
11	1.1	16	11.8	C	11.8	S	0.0	23AB	0.0
12	0.0	IC23 1	3.5	E	10.6			24A	0.0
13	5.0	2	0.0	Q40 B	3.1			24 B	0.0
14	5.0	3	3.8	C	9.4			25AB	0.0
IC15 1	5.0	4	0.0	E	2.5			28A	4.7
2	0.0	5	0.0	Q41 B	2.5			28 B	0.0
3	*2.1*	6	4.2	C	10.8			29AB	0.0
4	1.1	7	3.3	E	1.8			30A	8.7
5	0.0	8	5.1	Q42 B	10.8			30 B	0.0
6	5.0	9	2.3	C	11.8			31AB	0.0
7	0.0	IC24 1	0.7	E	10.2				
8	0.0	2	0.7	Q43 B	10.5				
9	0.0	3	5.0	C	11.8				
10	0.0	4	5.1	E	9.9				
11	0.0	5	0.7	Q44 B	10.5				
12	0.0	6	5.1	C	11.8				
13	5.0	7	0.0	E	9.9				
14	5.0	8	0.2	Q45 B	9.9				
IC16 1	*2.1*	9	5.1	C	11.8				
2	5.0	10	5.1	E	9.3				
3	5.0	11	5.1	Q46 B	10.1				
4	5.0	12	0.0	C	11.8				
5	5.0	13	5.1	E	9.5				
6	5.0	14	5.1	Q47 B	10.1				
7	0.0	IC28 1	6.4	C	11.8				
8	0.0	2	11.8	E	9.5				
9	0.0	3	2.7	Q48 B	9.5				
10	0.0	4	0.0	C	11.8				
11	0.0	IC29 1	6.4	E	8.9				
12	5.0	2	11.8	Q49 B	9.3				
13	*2.1*	3	2.7	C	11.8				
14	5.0	4	0.0	E	8.6				
				Q50 G	3.9				
				D	0.0				
				S	0.0				

4.36 REC/PB ADJUST SCHEMATIC DIAGRAM

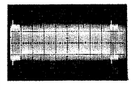
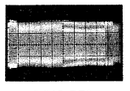
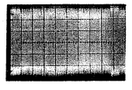
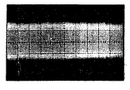
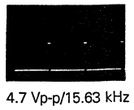


— MAIN WAVEFORMS OF REC/PB ADJUST CIRCUIT —

TP1 (TP8)	TP3		TP4		TP5, TP6		T
							
4.7 Vp-p/25 Hz D. FF	[S-VHS PB] 550 mVp-p : Burst level	[VHS PB] 850 mVp-p : Burst level	[S-VHS PB] 300 mVp-p	[VHS PB] 420 mVp-p	[S-VHS PB] 300 mVp-p	[VHS PB] 170 mVp-p	4.7 Vp-p



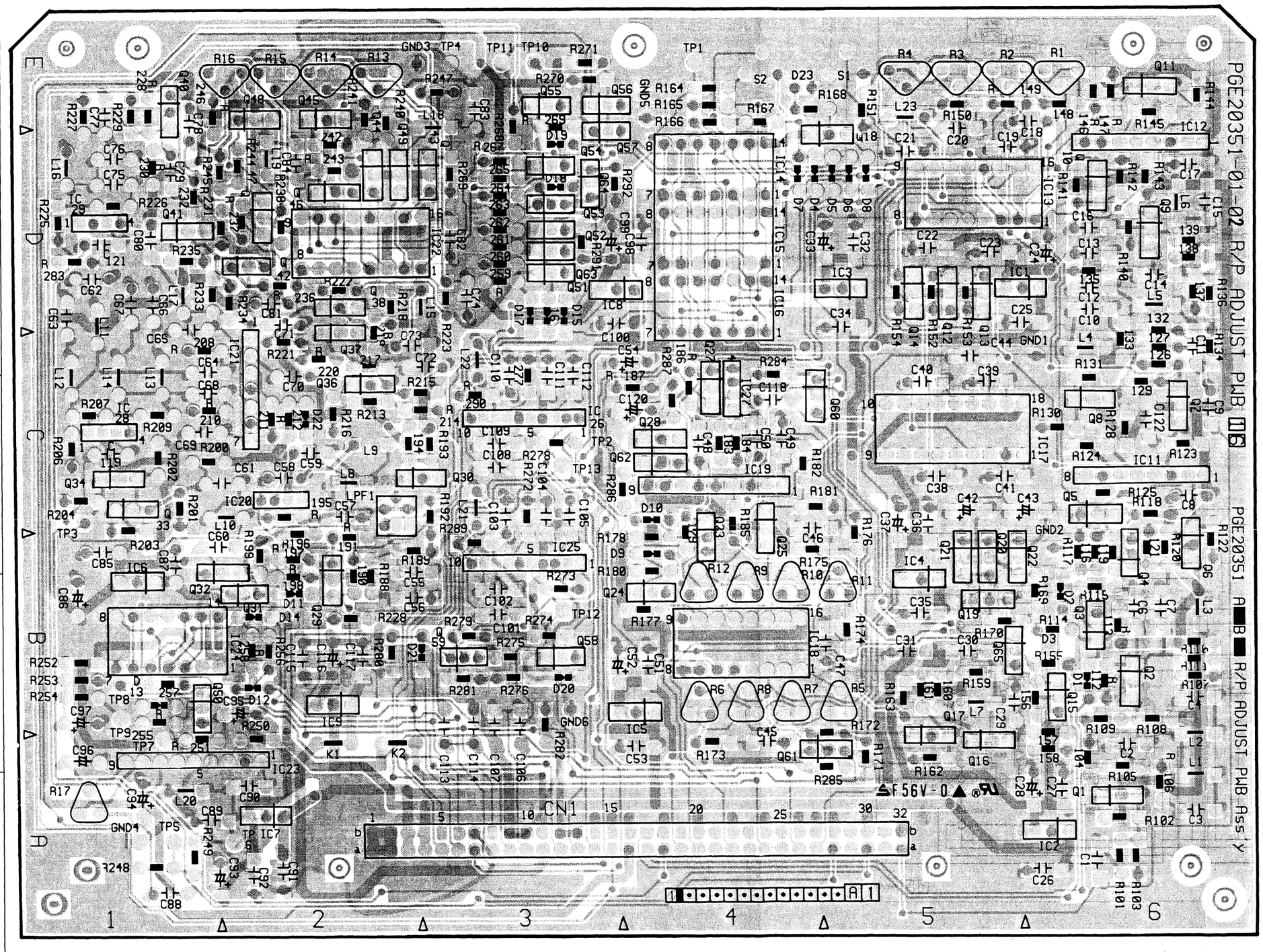
— MAIN WAVEFORMS OF REC/PB ADJUST CIRCUIT —

TP1 (TP8)	TP3		TP4		TP5, TP6		TP10
							
4.7 Vp-p/25 Hz D. FF	[S-VHS PB] 550 mVp-p : Burst level	[VHS PB] 850 mVp-p : Burst level	[S-VHS PB] 300 mVp-p	[VHS PB] 420 mVp-p	[S-VHS PB] 300 mVp-p	[VHS PB] 170 mVp-p	4.7 Vp-p/15.63 kHz

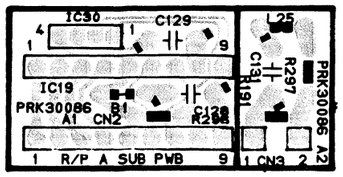
4.37 REC/PB ADJUST CIRCUIT BOARD

— REC/PB ADJUST —

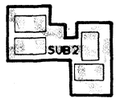
(SOLDER SIDE)



— R/P ADJ SUB —

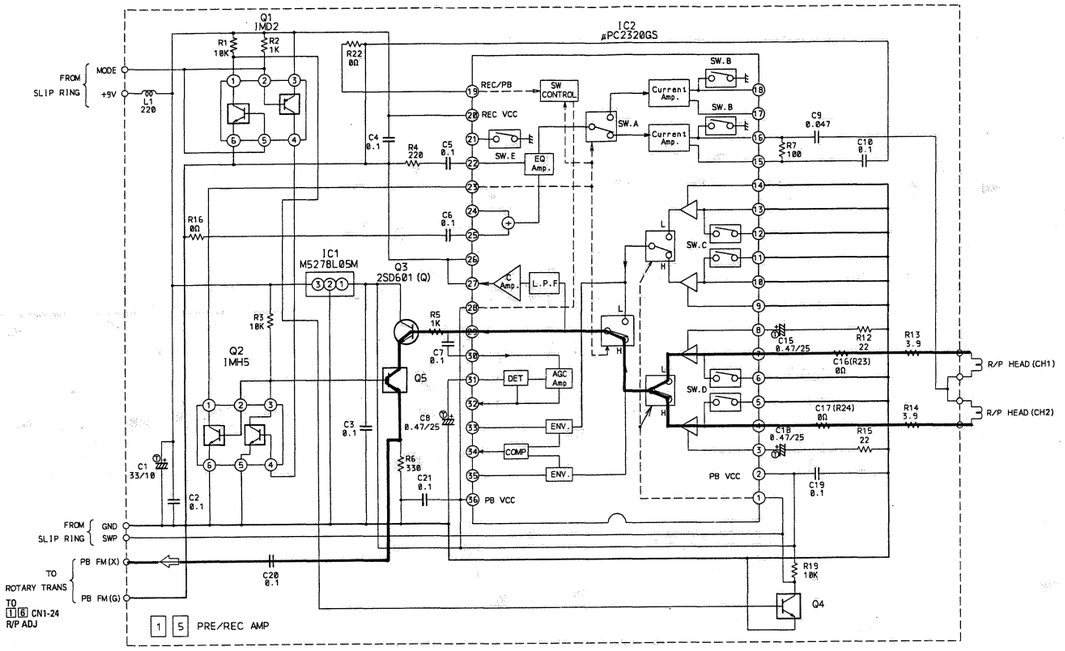


(SOLDER SIDE)

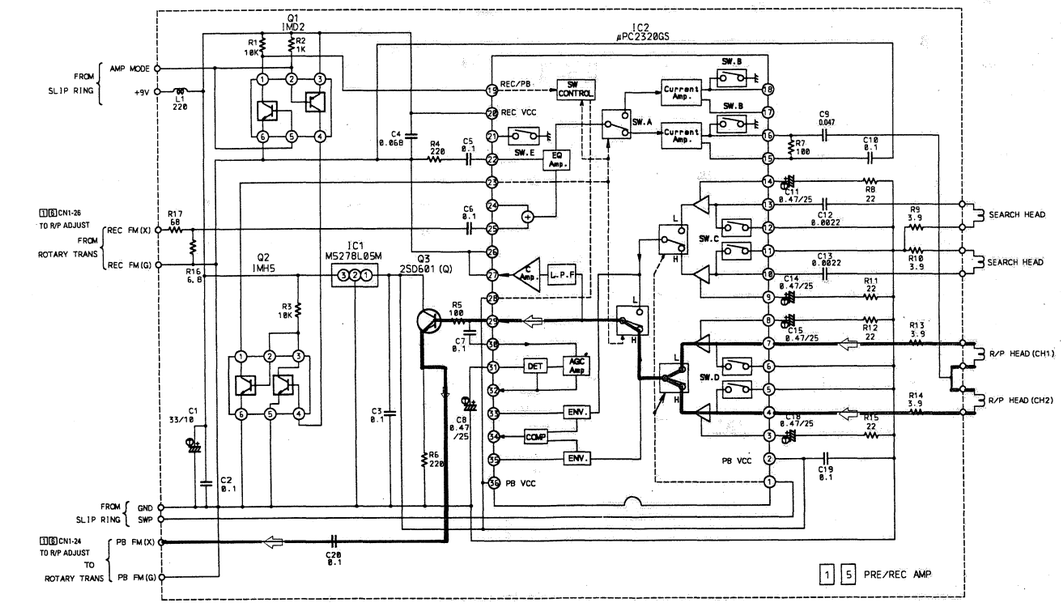


4.38 PRE/REC AMP SCHEMATIC DIAGRAM

[BR-S525E]

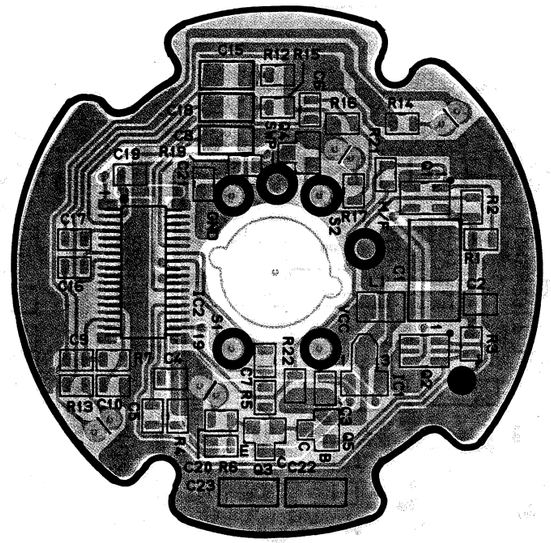


[BR-S522E]

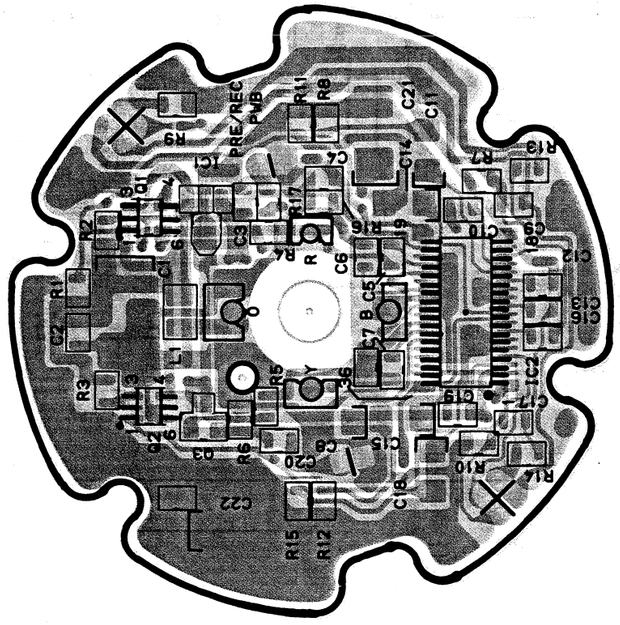


4.39 PRE/REC AMP CIRCUIT BOARD

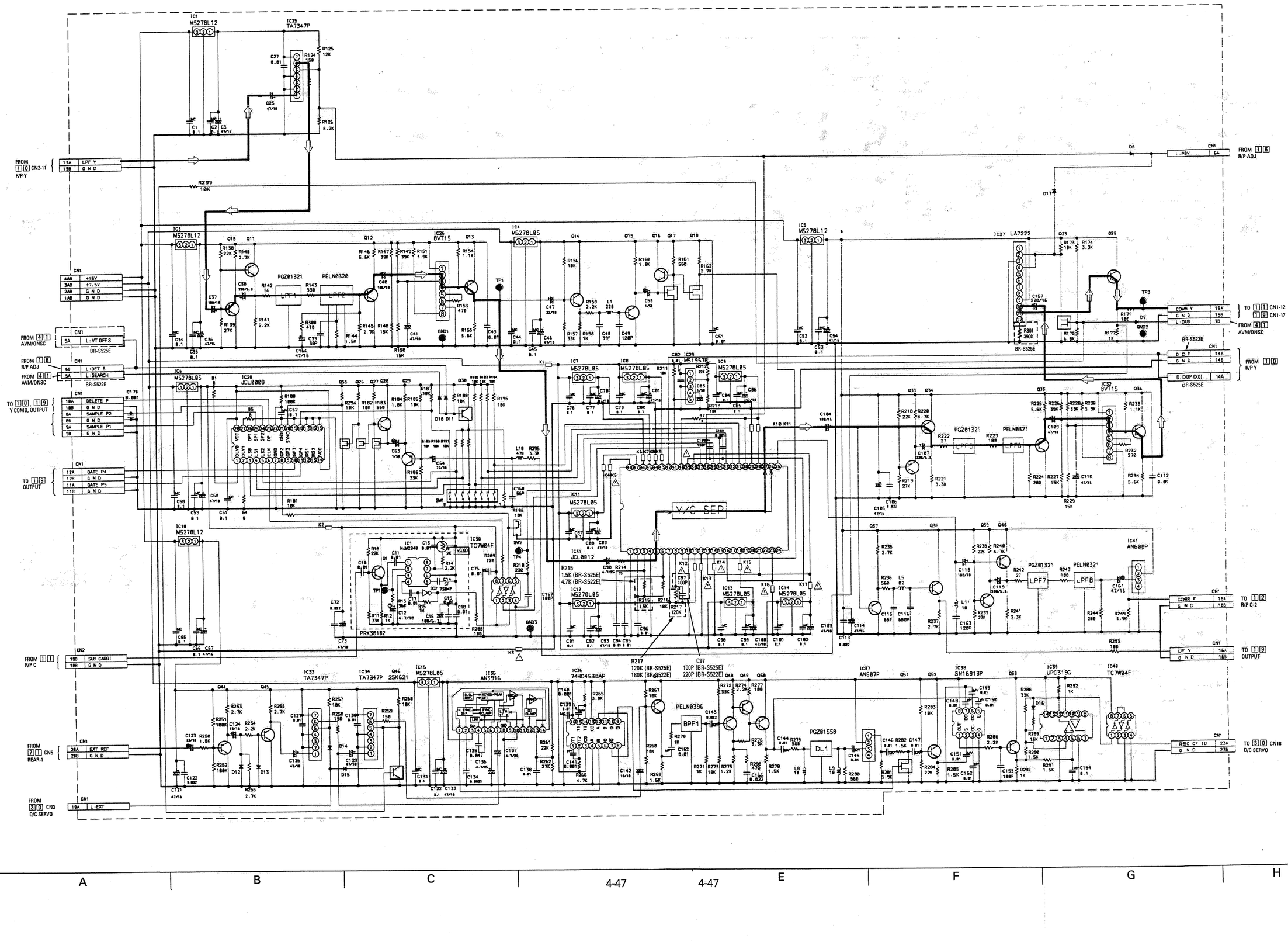
[BR-S525E]



[BR-S522E]



4.40 Y COMB SCHEMATIC DIAGRAM

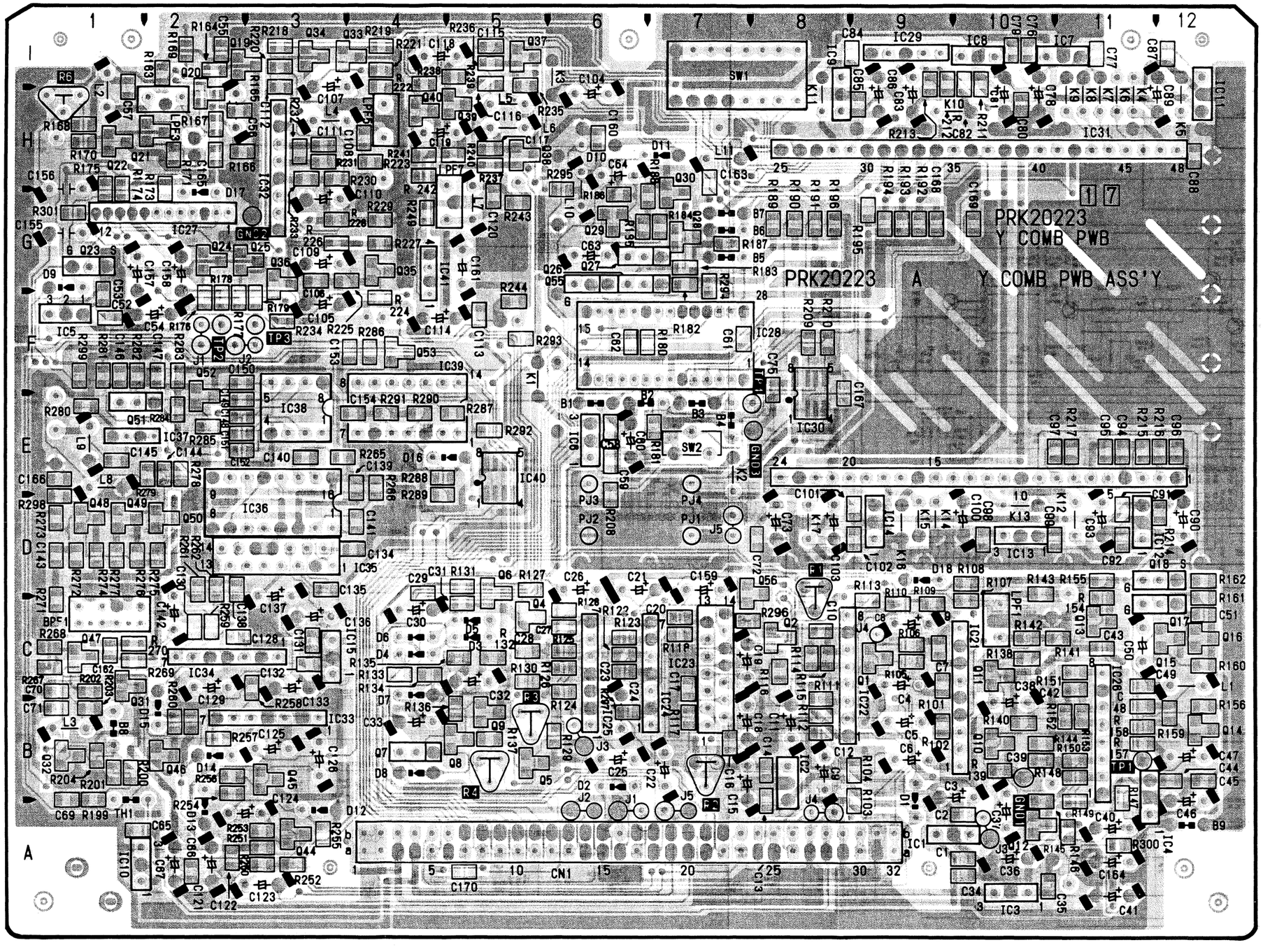


4.41 Y COMB CIRCUIT BOARD

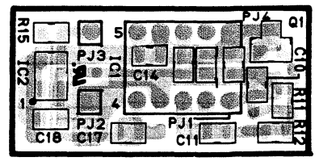
[BR-S525E]

— Y COMB —

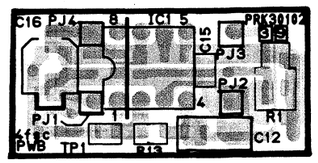
(SOLDER SIDE)



— 4fsc —



(PARTS SIDE)



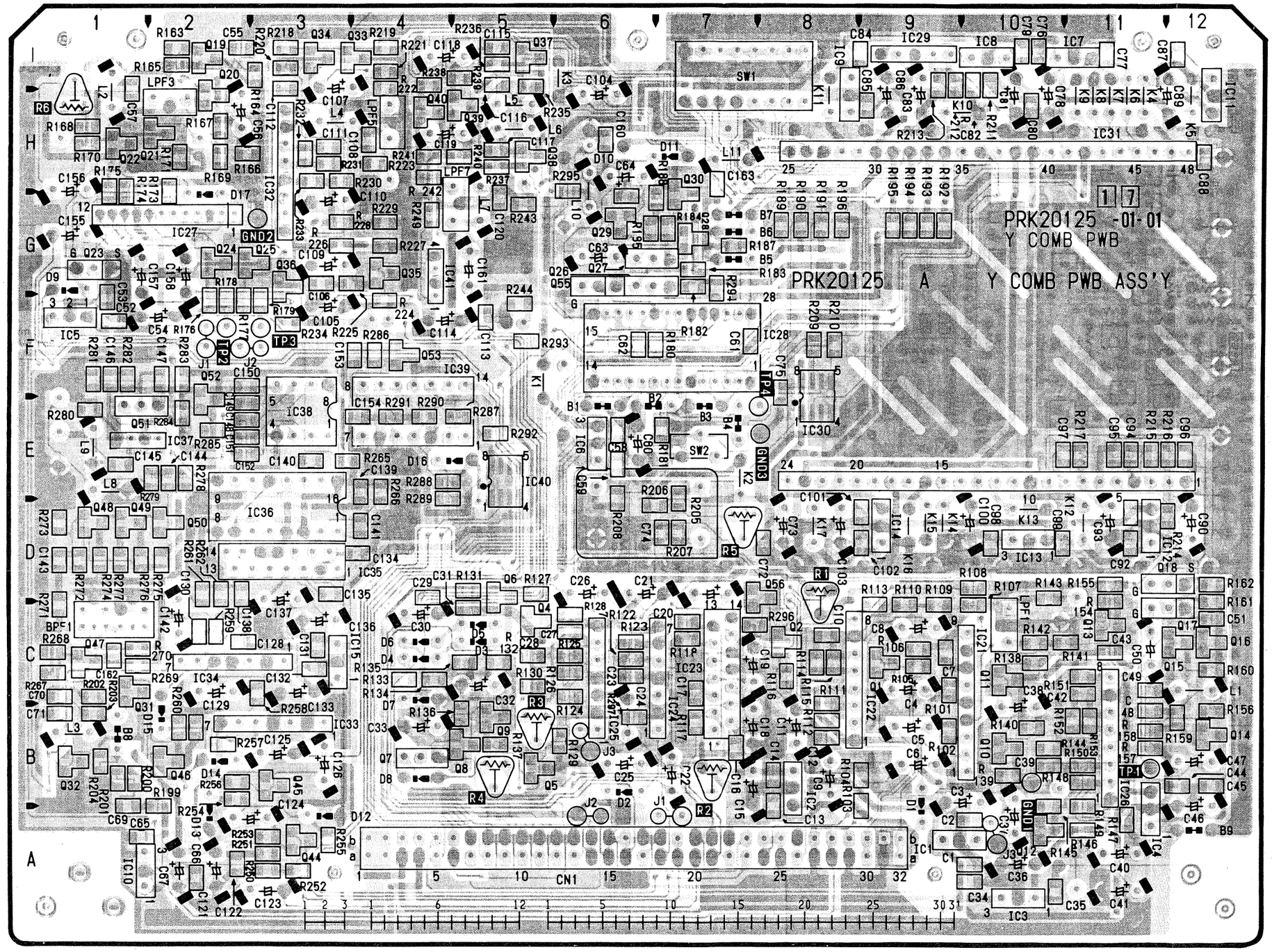
(SOLDER SIDE)

— MAIN WAVEFORMS OF Y COMB CIRCUIT —

TP1	
	
[S-VHS PB]	[VHS PB]
1.7 VP-P	
TP3	
	
[S-VHS PB]	[VHS PB]
1.2 VP-P	

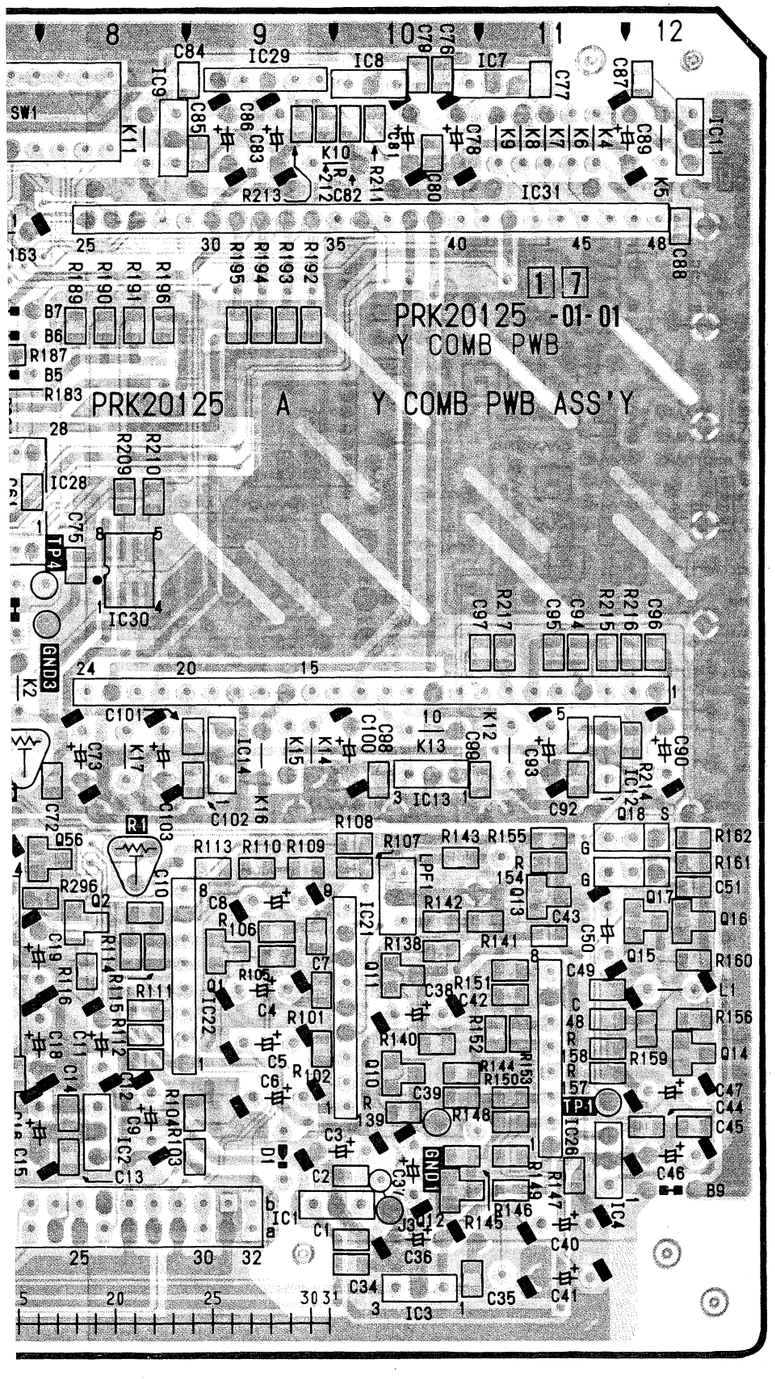
[BR-S522E]

(SOLDER SIDE)



— DC Voltage (1/2) — (Y COMB)

SYMBOL No.		PB	SYMBOL No.		PB
INTEGRATED CIRCUIT			IC27	4	0.0
IC1	1	11.8		5	7.9
	2	0.0		6	0.0
	3	14.7		7	7.8
IC3	1	11.8		8	7.1
	2	0.0		9	11.8
	3	14.7		10	7.8
IC4	1	5.0		11	7.1
	2	0.0		12	7.8
	3	7.9	IC28	1	5.0
IC5	1	11.8		2	0.0
	2	0.0		3	5.0
	3	14.7		4	0.0
IC6	1	5.0		5	0.0
	2	0.0		6	2.6
	3	7.9		7	0.0
IC7	1	5.0		8	4.8
	2	0.0		9	0.3
	3	7.9		10	0.0
IC8	1	5.0		11	0.0
	2	0.0		12	*0.4*
	3	7.9		13	*0.5*
IC9	1	5.0		14	5.0
	2	0.0		15	0.0
	3	7.9		16	0.0
IC10	1	11.8		17	0.0
	2	0.0		18	0.0
	3	14.7		19	0.0
IC11	1	5.1		20	0.2
	2	0.0		21	0.0
	3	7.9		22	5.0
IC12	1	5.0		23	0.0
	2	0.0		24	0.0
	3	7.9		25	0.0
IC13	1	5.1		26	0.3
	2	0.0		27	0.0
	3	7.9		28	5.0
IC14	1	5.0	IC29	1	5.0
	2	0.0		2	1.6
	3	7.9		3	0.0
IC15	1	5.0		4	1.2
	2	0.0		5	5.0
	3	7.9	IC30	1	2.4
IC25	1	8.2		2	0.3
	2	0.0		3	2.4
	3	8.3		4	0.0
	4	0.0		5	2.6
	5	0.7		6	4.8
	6	7.4		7	2.5
	7	11.8		8	5.0
IC26	1	12.1	IC31	1	0.0
	2	3.2		2	0.7
	3	3.2		3	0.5
	4	8.9		4	0.0
	5	2.5		5	1.5
	6	2.5		6	2.6
	7	0.0		7	5.0
	8	1.3		8	3.6
IC27	1	0.0		9	4.7
	2	0.0		10	0.0
	3	0.0		11	5.0



— DC Voltage (1/2) — (Y COMB)

SYMBOL No.		PB
INTEGRATED CIRCUIT		
IC1	1	11.8
	2	0.0
	3	14.7
IC3	1	11.8
	2	0.0
	3	14.7
IC4	1	5.0
	2	0.0
	3	7.9
IC5	1	11.8
	2	0.0
	3	14.7
IC6	1	5.0
	2	0.0
	3	7.9
IC7	1	5.0
	2	0.0
	3	7.9
IC8	1	5.0
	2	0.0
	3	7.9
IC9	1	5.0
	2	0.0
	3	7.9
IC10	1	11.8
	2	0.0
	3	14.7
IC11	1	5.1
	2	0.0
	3	7.9
IC12	1	5.0
	2	0.0
	3	7.9
IC13	1	5.1
	2	0.0
	3	7.9
IC14	1	5.0
	2	0.0
	3	7.9
IC15	1	5.0
	2	0.0
	3	7.9
IC25	1	8.2
	2	0.0
	3	8.3
	4	0.0
	5	0.7
	6	7.4
	7	11.8
IC26	1	12.1
	2	3.2
	3	3.2
	4	8.9
	5	2.5
	6	2.5
	7	0.0
	8	1.3
IC27	1	0.0
	2	0.0
	3	0.0
IC27	4	0.0
	5	7.9
	6	0.0
	7	7.8
	8	7.1
	9	11.8
	10	7.8
	11	7.1
	12	7.8
IC28	1	5.0
	2	0.0
	3	5.0
	4	0.0
	5	0.0
	6	2.6
	7	0.0
	8	4.8
	9	0.3
	10	0.0
	11	0.0
	12	*0.4*
	13	*0.5*
	14	5.0
	15	0.0
	16	0.0
	17	0.0
	18	0.0
	19	0.0
	20	0.2
	21	0.0
	22	5.0
	23	0.0
	24	0.0
	25	0.0
	26	0.3
	27	0.0
	28	5.0
IC29	1	5.0
	2	1.6
	3	0.0
	4	1.2
	5	5.0
IC30	1	2.4
	2	0.3
	3	2.4
	4	0.0
	5	2.6
	6	4.8
	7	2.5
	8	5.0
IC31	1	0.0
	2	0.7
	3	0.5
	4	0.0
	5	1.5
	6	2.6
	7	5.0
	8	3.6
	9	4.7
	10	0.0
	11	5.0

— DCVoltage (2/2) — (Y COMB)

SYMBOL No.		PB
IC31	12	0.0
	13	5.0
	14	0.0
	15	0.0
	16	0.0
	17	0.0
	18	5.0
	19	0.0
	20	0.0
	21	5.0
	22	0.0
	23	0.0
	24	0.0
	25	4.6
	26	4.6
	27	4.5
	28	5.0
	29	0.0
	30	5.0
	31	0.0
	32	0.0
	33	5.0
	34	5.0
	35	2.6
	36	0.7
	37	0.3
	38	5.0
	39	0.0
	40	5.0
	41	5.0
	42	0.0
	43	5.0
	44	0.0
	45	5.0
	46	0.0
	47	5.0
	48	0.0
IC32	1	11.8
	2	3.1
	3	3.1
	4	9.1
	5	2.4
	6	2.4
	7	0.0
	8	1.3
IC33	1	8.3
	2	0.0
	3	8.3
	4	0.0
	5	0.6
	6	7.5
	7	11.8
IC34	1	8.3
	2	0.0
	3	8.3
	4	0.0
	5	0.6
	6	7.5
	7	11.8
IC35	1	*0.1*
	2	3.0
	3	5.0
	4	1.9
	5	1.6
	6	1.2
	7	2.9
	8	0.0
	9	2.9
	10	0.0
	11	2.7
	12	3.0
	13	2.8
	14	1.6
IC36	1	0.0
	2	4.7
	3	5.0
	4	0.0
	5	*0.1*
	6	0.3
	7	4.7
	8	0.0
	9	4.8
	10	0.3
	11	5.0
	12	4.7
	13	5.0
	14	4.7
	15	0.0
	16	5.0
IC37	1	3.0
	2	5.0
	3	1.7
	4	0.0
IC38	1	4.2
	2	2.5
	3	1.8
	4	0.0
	5	2.5
	6	2.5
	7	2.5
	8	5.0
IC39	1	0.0
	2	0.0
	3	0.0
	4	3.6
	5	3.6
	6	0.0
	7	3.8
	8	4.2
	9	0.0
	10	0.1
	11	5.0
	12	0.4
	13	0.0
	14	5.0
IC40	1	0.4
	2	0.0
	3	0.0
	4	0.0
	5	0.0
	6	5.0
	7	5.0
	8	5.0
(4FSC PWB)		
IC1	1	2.6
	2	2.0
	3	0.0
	4	3.2
	5	3.2
	6	5.0
	7	3.6
	8	0.0

TRANSISTOR		
Q10	B	6.5
	C	0.0
	E	6.7
Q11	B	6.5
	C	11.8
	E	5.8
Q12	B	4.0
	C	0.0
	E	4.7
Q13	B	8.9
	C	11.8
	E	8.3
Q14	B	3.8
	C	5.1
	E	3.1
Q15	B	3.1
	C	0.0
	E	3.7
Q16	B	0.6
	C	5.1
	E	3.6
Q17	G	3.6
	D	0.6
	S	0.0
Q18	G	0.6
	D	4.7
	S	0.0
Q23	G	7.8
	D	0.0
	S	0.0
Q25	B	7.1
	C	11.8
	E	6.5
Q26	G	1.0
	D	4.1
	S	0.0
Q27	G	3.4
	D	1.0
	S	0.0
Q28	B	1.0
	C	5.0
	E	3.4
Q29	B	3.8
	C	0.0
	E	4.4
Q30	B	0.7
	C	5.0
	E	5.0
Q33	B	6.1
	C	0.0
	E	6.7
Q34	B	6.1
	C	11.8
	E	5.5
Q35	B	2.7
	C	0.0
	E	3.3
Q36	B	9.1
	C	11.8
	E	8.5
Q37	B	6.1
	C	0.0
	E	6.7
Q38	B	6.7
	C	11.8
	E	6.1
Q39	B	6.0
	C	0.0
	E	6.6
Q40	B	6.0
	C	11.8
	E	5.4
Q44	B	6.4
	C	0.0
	E	7.0
Q45	B	0.1
	C	0.0
	E	0.8
Q46	B	0.0
	C	0.6
	E	0.0
Q47	B	2.5
	C	5.0
	E	1.9
Q48	B	1.8
	C	4.3
	E	1.2
Q49	B	4.3
	C	3.3
	E	4.9
Q50	B	3.3
	C	5.0
	E	2.7
Q51	G	4.8
	D	0.0
	S	0.0
Q52	B	3.4
	C	5.0
	E	2.8
Q53	B	4.2
	C	5.0
	E	3.6
Q55	G	4.1
	D	0.2
	S	0.0

CONNECTOR		
CN1	1AB	0.0
	2AB	0.0
	3AB	7.9
	4AB	14.7
	5A	6.0
	5 B	0.0
	6A	0.2
	6 B	0.2
	7A	0.0
	7 B	7.6
	8A	0.0
	8 B	0.0
	9A	0.0
	9 B	0.0
	10A	0.0
	10 B	0.0
	11A	0.0
	11 B	0.0
	12A	0.0
	12 B	0.0
	13A	7.0
	13 B	0.0
	14A	0.0
	14 B	0.0
	15A	6.5
	15 B	0.0
	16A	6.1
	16 B	0.0
	17A	0.0
	17 B	0.0
	18A	7.0
	18 B	0.0
	19A	0.0
	19 B	2.3
	20A	4.0
	20 B	0.0
	21A	0.1
	21 B	0.0
	22A	0.0
	22 B	0.0
	23A	0.0
	23 B	0.0
	24A	0.0
	24 B	0.0
	25A	0.0
	25 B	0.0
	26A	0.0
	26 B	0.0
	27AB	0.0
	28AB	0.0
	29AB	0.0
	30AB	0.0
	31AB	0.0
	32AB	0.0

4-49

— DC Voltage (1/2) — OUTPUT

SYMBOL No.		PB	SYMBOL No.		PB	SYMBOL No.		PB	SYMBOL No.		PB	SYMBOL No.		PB
INTEGRATED CIRCUIT			IC16	1	3.5	IC21	8	0.0	IC29	1	5.0	TRANSISTOR		
IC 1	1	11.7		2	3.5		9	5.0		2	3.6	Q 1	B	6.5
	2	0.0		3	3.2		10	0.0		3	2.9		C	11.7
	3	14.7		4	–		11	0.1		4	3.0		E	5.8
IC 2	1	11.9		5	0.0		12	5.0		5	2.9	Q 2	B	5.8
	2	0.0		6	0.0		13	0.0		6	3.0		C	0.0
	3	14.7		7	0.0		14	5.0		7	3.0		E	6.5
IC 3	1	11.7		8	1.8		15	0.0		8	1.8	Q 3	B	5.8
	2	0.0		9	3.5		16	5.0		9	3.0		C	0.0
	3	14.7		10	3.5	IC22	1	4.8		10	1.9		E	6.5
IC 4	1	11.8		11	1.9		2	11.8		11	3.0	Q 4	B	7.6
	2	0.0		12	0.0		3	0.0		12	0.0		C	11.7
	3	14.7		13	11.9		4	4.0		13	2.9		E	6.9
IC 5	1	11.8		14	11.9		5	0.0		14	3.0	Q 5	B	0.4
	2	0.0	IC17	1	3.5		6	4.7		15	0.0		C	11.7
	3	14.7		2	3.6		7	0.0		16	1.2		E	11.7
IC 6	1	5.0		3	1.8		8	4.3		17	2.8	Q 6	B	9.6
	2	0.0		4	0.0		9	0.4		18	2.1		C	11.7
	3	8.0		5	1.9	IC23	1	8.3		19	2.7		E	9.0
IC11	1	11.7		6	3.7		2	0.0		20	2.8	Q 7	B	6.4
	2	6.5		7	3.7		3	8.3		21	2.8		C	11.7
	3	6.5		8	11.8		4	0.0		22	2.8		E	5.8
	4	7.6	IC18	1	0.0		5	1.0		23	1.2	Q 9	B	5.8
	5	5.7		2	4.5		6	7.5		24	2.8		C	10.5
	6	5.7		3	4.2		7	11.8		25	2.2		E	5.2
	7	0.0		4	0.0	IC24	1	0.6		26	2.9	Q10	B	10.5
	8	1.1		5	11.8		2	7.5		27	0.0		C	7.9
IC12	1	9.6		6	11.8		3	7.5		28	1.8		E	11.2
	2	6.0		7	11.4		4	0.0		29	2.9	Q12	B	7.7
	3	4.0		8	11.9		5	0.0		30	2.1		C	11.7
	4	0.0	IC19	1	0.0		6	6.9	IC31	1	6.3		E	6.4
	5	4.0		2	11.9		7	11.8		2	11.7	Q13	B	7.7
	6	5.8		3	0.0		8	0.5		3	2.7		C	11.7
	7	5.8		4	11.9	IC25	1	8.3		4	0.0		E	6.5
	8	11.7		5	11.9		2	0.0	IC32	1	5.0	Q14	B	3.2
IC13	1	8.1		6	0.0		3	8.3		2	0.0		C	0.0
	2	0.0		7	11.9		4	0.0		3	5.0		E	3.9
	3	8.1		8	0.0		5	0.8		4	0.0	Q15	B	3.5
	4	0.0		9	11.9		6	7.5		5	5.0		C	0.0
	5	0.0		10	0.0		7	11.8		6	5.0		E	4.2
	6	8.1		11	11.9	IC26	1	8.3		7	0.0	Q16	B	3.7
	7	0.0		12	0.0		2	0.0		8	0.6		C	0.0
	8	7.3		13	0.4		3	8.2		9	0.6		E	4.2
	9	11.7		14	11.9		4	0.0		10	5.1	Q17	B	11.4
IC14	1	7.7		15	0.0		5	1.0		11	0.0		C	0.0
	2	2.6		16	11.9		6	7.5		12	5.0		E	0.0
	3	2.6	IC20	1	11.7		7	11.8		13	5.0	Q18	B	11.4
	4	7.7		2	6.0	IC27	1	0.6		14	5.0		C	0.4
	5	1.9		3	6.0		2	7.5	IC33	1	11.8		E	11.9
	6	1.9		4	7.6		3	7.5		2	0.0	Q19	G	0.0
	7	0.0		5	5.3		4	0.0		3	14.7		D	11.9
	8	1.1		6	5.3		5	0.0	IC34	1	11.8		S	0.0
IC15	1	3.5		7	0.0		6	6.8		2	0.0	Q20	B	11.3
	2	3.5		8	1.1		7	11.8		3	14.7		C	11.9
	3	3.5	IC21	1	0.0		8	0.5	IC501	1	11.8		E	11.9
	4	0.0		2	4.9	IC28	1	0.5		2	5.7	Q21	B	0.6
	5	3.5		3	5.0		2	6.9		3	5.7		C	0.0
	6	3.5		4	0.0		3	6.9		4	8.8		E	0.0
	7	3.2		5	4.9		4	0.0		5	5.0	Q22	B	6.4
	8	11.7		6	0.1		5	0.0		6	5.0		C	5.3
				7	4.9		6	6.3		7	0.0		E	11.9
							7	11.8		8	1.4			
							8	0.5						

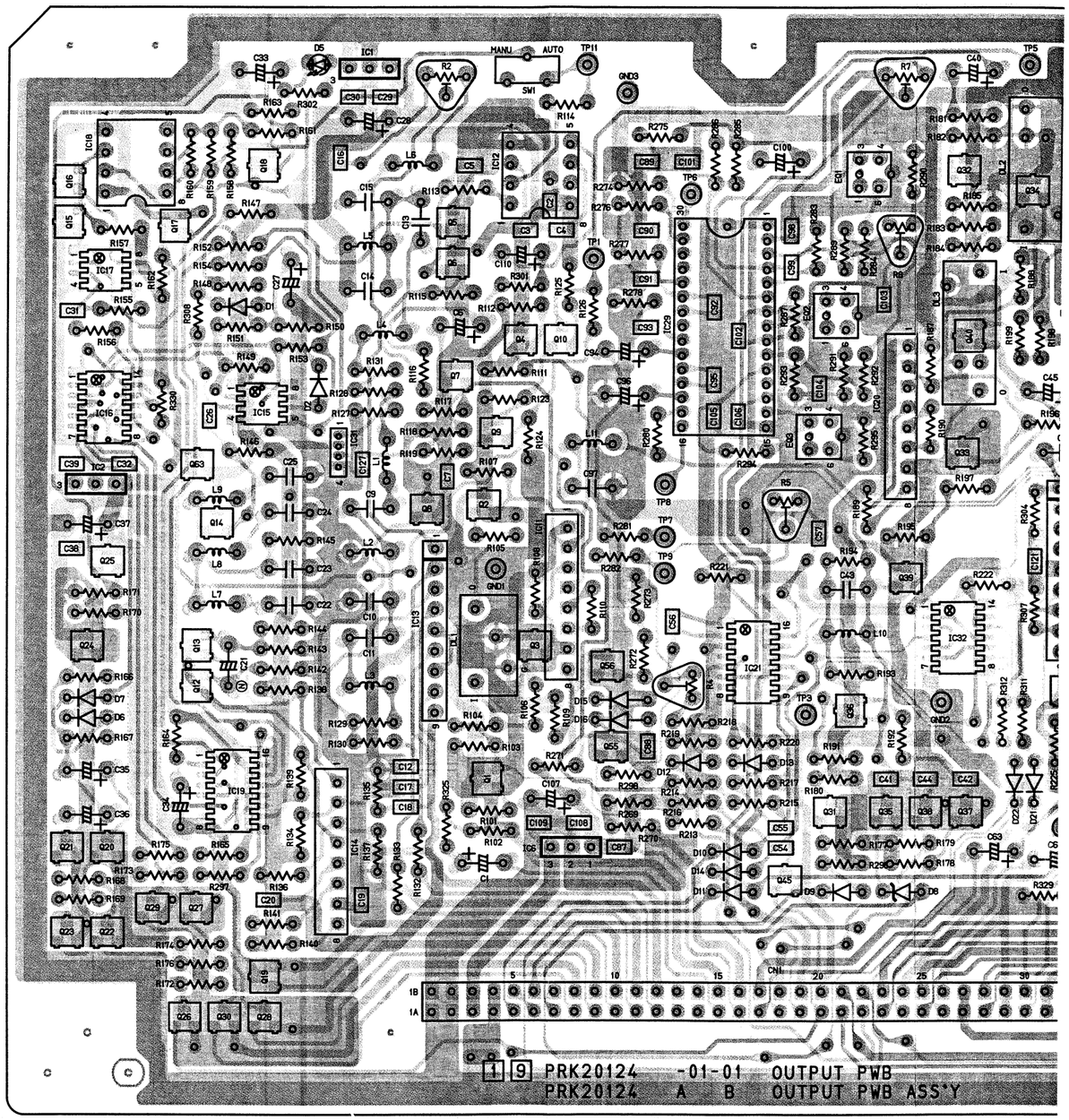
SYMBOL No.		PB	SYMBOL No.		PB
Q23	B	5.1	Q68	B	11.5
	C	5.3		C	11.6
	E	0.0		E	11.6
Q24	B	11.0	CONNECTOR		
	C	0.0	CN 1	1AB	0.0
	E	11.5		2AB	0.0
Q25	B	11.5		3AB	8.0
	C	11.9		4AB	14.7
	E	10.8		5A	4.8
Q26	B	2.2		5 B	6.1
	C	5.1		6A	0.2
	E	0.0		6 B	0.2
Q27	B	10.0		7A	0.0
	C	0.0		7 B	4.4
	E	0.0		8A	0.0
Q28	B	0.0		8 B	0.0
	C	10.0		9A	0.0
	E	0.0		9 B	0.0
Q29	B	10.0		10A	0.0
	C	0.0		10 B	0.0
	E	0.0		11A	0.0
Q30	B	0.0		11 B	0.0
	C	10.0		12A	0.0
	E	0.0		12 B	0.0
Q31	B	0.8		13AB	0.0
	C	11.7		14AB	0.0
	E	0.0		15A	6.5
Q32	B	6.0		15 B	0.0
	C	11.7		16A	6.1
	E	5.4		16 B	0.0
Q33	B	5.4		17A	0.0
	C	0.0		17 B	0.0
	E	6.0		18A	0.6
Q34	B	5.4		18 B	0.6
	C	0.0		19A	6.9
	E	6.0		19 B	0.0
Q35	B	7.1		20A	2.2
	C	11.7		20 B	0.0
	E	11.7		21A	0.0
Q36	G	7.6		21 B	0.0
	D	8.1		22A	0.5
	S	7.6		22 B	9.7
Q37	B	0.6		23A	3.9
	C	0.0		23 B	0.0
	E	0.0		24A	5.0
Q38	B	0.6		24 B	0.0
	C	0.0		25A	6.9
	E	0.0		25 B	0.0
Q39	B	7.6		26A	3.4
	C	11.7		26 B	0.0
	E	7.0		27A	0.0
Q40	B	6.0		27 B	0.0
	C	0.0		28A	0.0
	E	6.7		28 B	0.0
Q41	B	1.7		29A	0.0
	C	7.0		29 B	0.0
	E	1.1		30A	0.0
Q42	B	6.9		30 B	0.0
	C	11.7		31A	0.0
	E	6.3		31 B	0.0
				32A	0.0
				32 B	0.0

— DC Voltage (2/2) — OUTPUT

4.42 OUTPUT CIRCUIT BOARD

[BR-S525E]

(SOLDER SIDE)

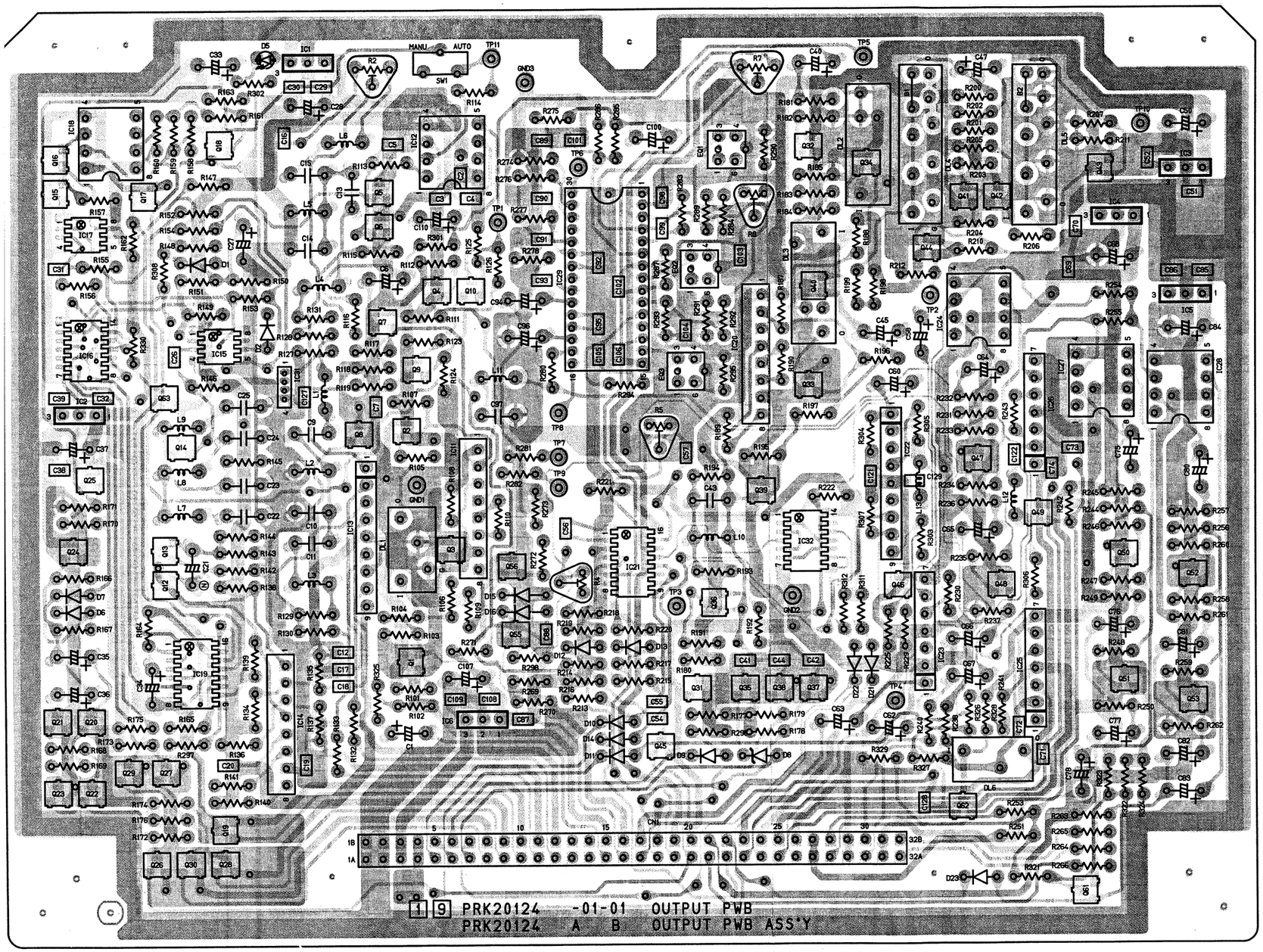


4-50
4-50

1.42 OUTPUT CIRCUIT BOARD

[BR-S525E]

(SOLDER SIDE)

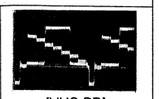


— MAIN WAVEFORMS OF OUTPUT CIRCUIT —

TP1, TP2

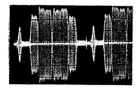


[S-VHS PB]
TP1: 660 mVp-p
TP2: 980 mVp-p



[VHS PB]
TP1: 660 mVp-p
TP2: 980 mVp-p

TP5



[S-VHS PB]



[VHS PB]

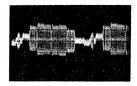
170 mVp-p: Burst level

TP6



[PB]
S-VHS: 930 mVp-p
VHS: 900 mVp-p

TP8



[S-VHS PB]

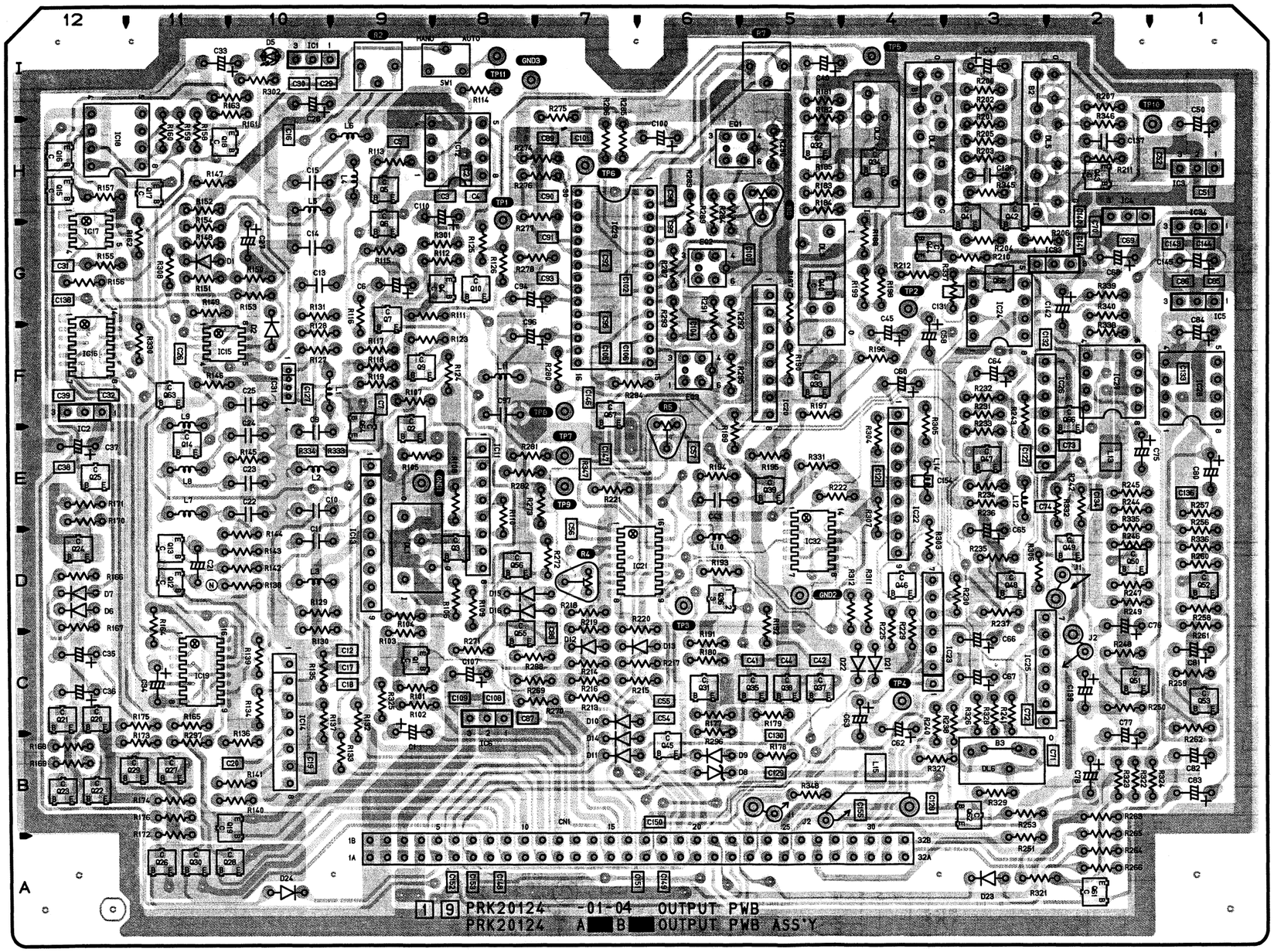


[VHS PB]

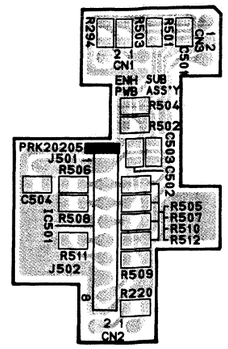
30 mVp-p: Burst level

[BR-S522E]

(SOLDER SIDE)

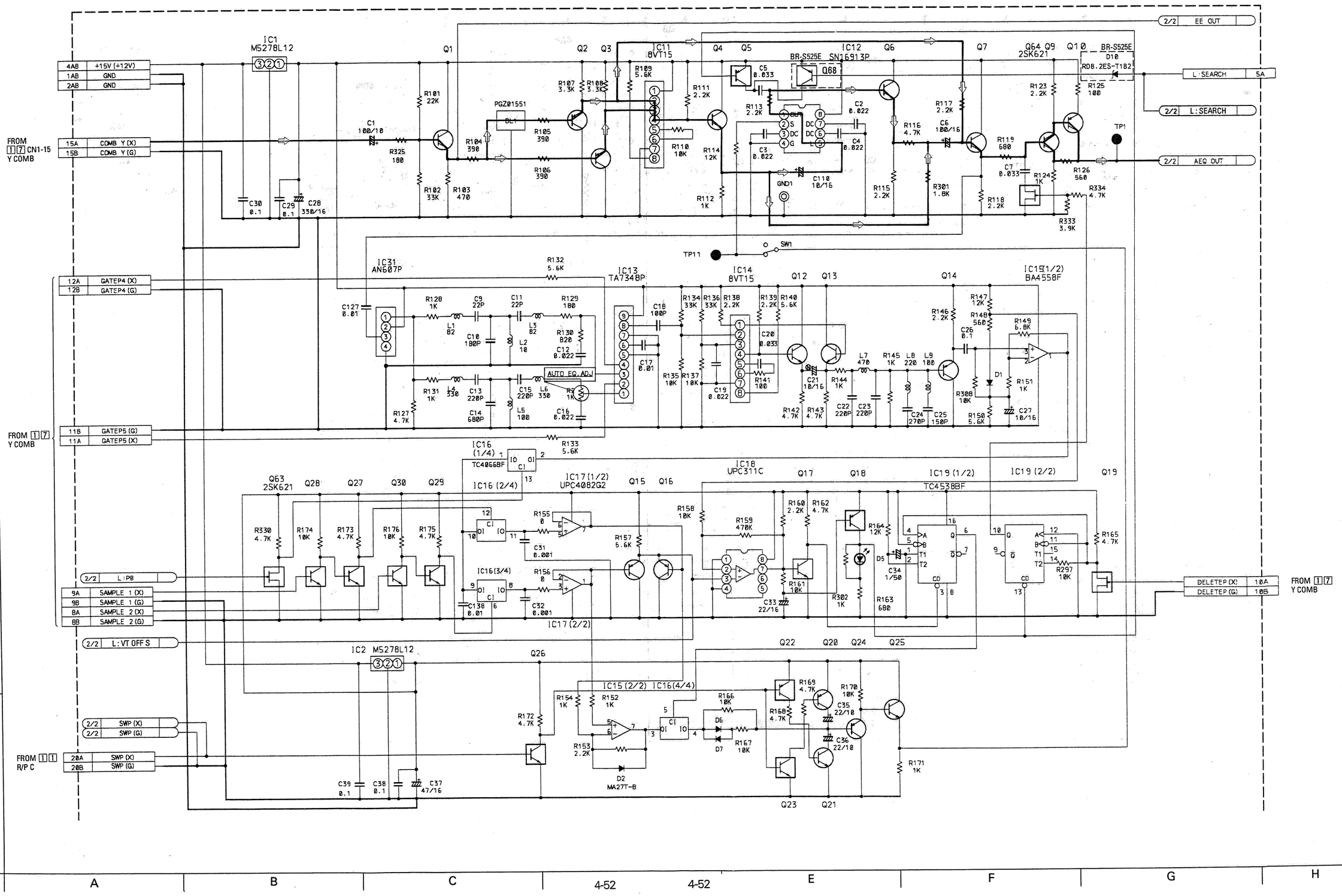


— ENHANCER SUB —

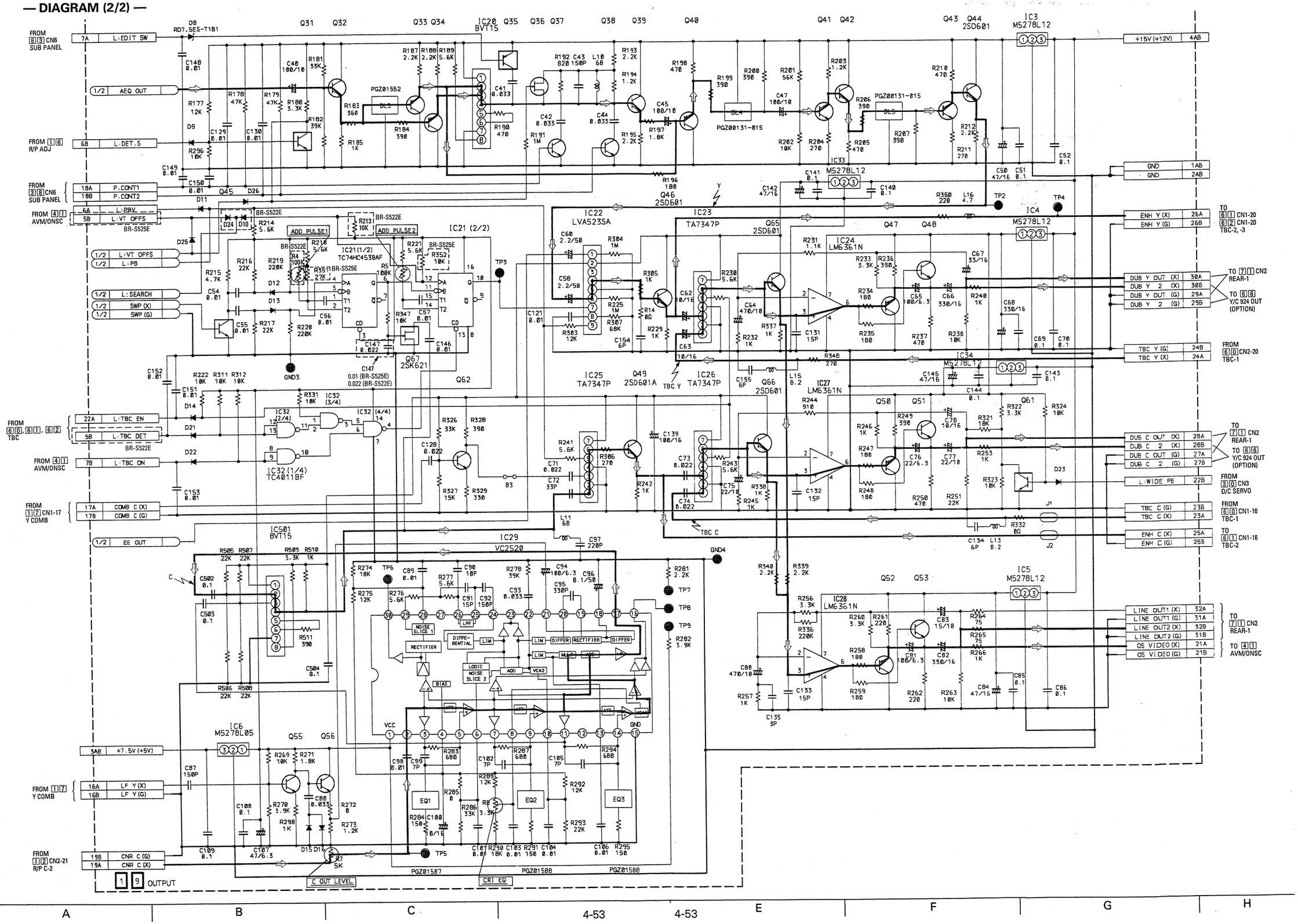


4.43 OUTPUT SCHEMATIC DIAGRAM

— DIAGRAM (1/2) —



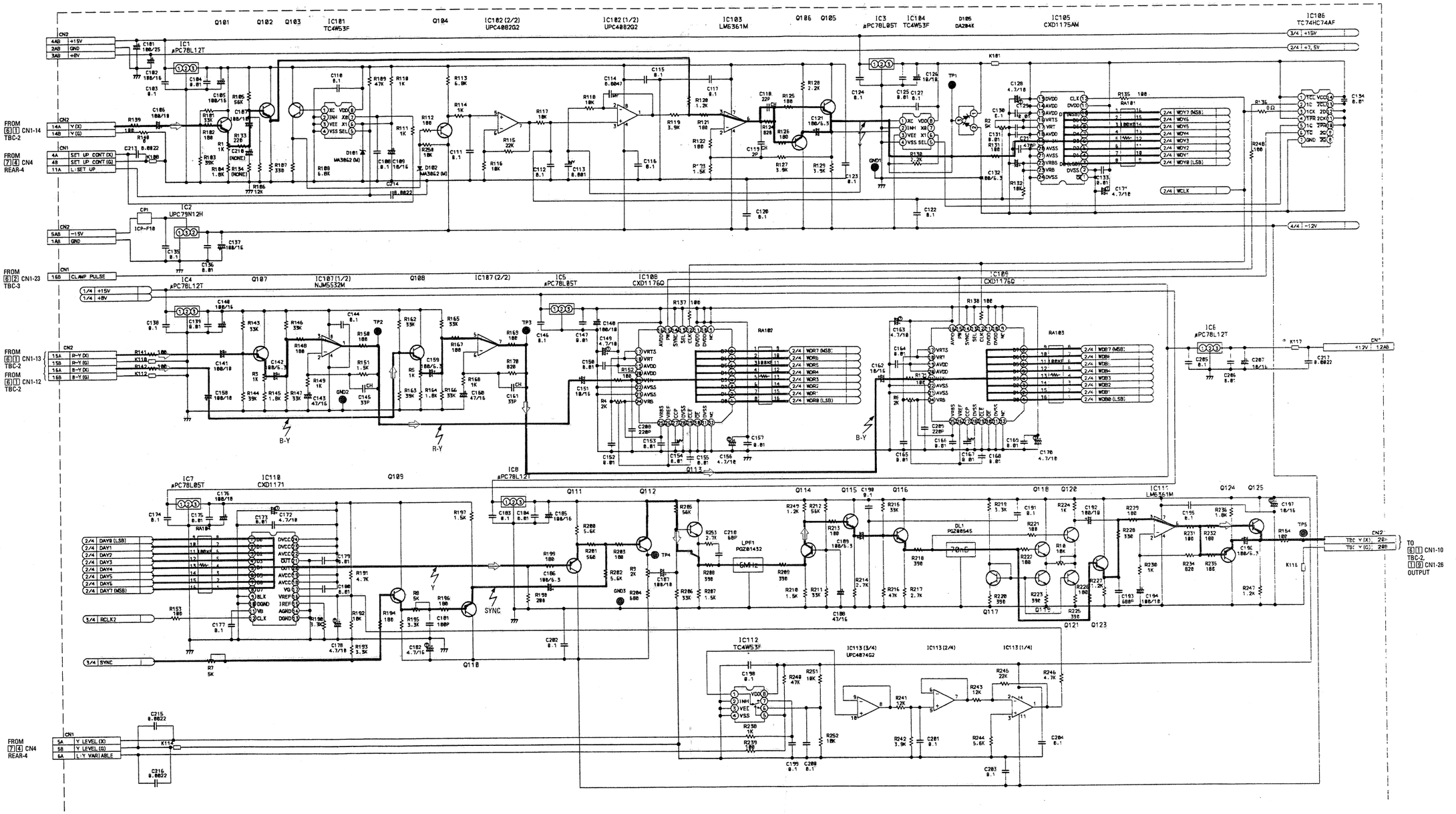
— DIAGRAM (2/2) —


FROM 8 3 CN6 SUB PANEL
7A L:EDIT SW
1/2 AEQ OUT
FROM 1 6 R/P ADJ
6B L:DET.S
FROM 3 6 CN6 SUB PANEL
18A P.CONT1
18B P.CONT2
FROM 4 1 AVM/ONSC
6A L:PBV
5B L:VT OFFS
BR-S525E
1/2 L:VT OFFS
1/2 L:PB
1/2 L:SEARCH
1/2 SWP (X)
1/2 SWP (G)
FROM 6 0, 6 1, 6 2 TBC
22A L:TBC EN
5B L:TBC DET
BR-S522E
FROM 4 1 AVM/ONSC
7B L:TBC ON
FROM 1 7 CN1-17 Y COMB
17A COMB C (X)
17B COMB C (G)
1/2 EE OUT
3AB +7.5V (+5V)
FROM 1 7 Y COMB
16A LF Y (X)
16B LF Y (G)
FROM 1 2 CN2-21 R/P C-2
19B CNR C (G)
19A CNR C (X)
1 9 OUTPUT
C OUT LEVEL
CRT EQ
+15V (+12V) 4AB
GND 1AB
GND 2AB
ENH Y (X) 26A
ENH Y (G) 26B
TO 6 1 CN1-20 6 2 CN1-20 TBC-2, -3
DUB Y OUT (X) 30A
DUB Y 2 (X) 30B
DUB Y OUT (G) 29A
DUB Y 2 (G) 29B
TO 7 1 CN2 REAR-1
TO 6 6 Y/C 924 OUT (OPTION)
TBC Y (G) 24B
TBC Y (X) 24A
FROM 6 0 CN2-20 TBC-1
DUB C OUT (X) 28A
DUB C 2 (X) 28B
DUB C OUT (G) 27A
DUB C 2 (G) 27B
TO 7 1 CN2 REAR-1
TO 6 6 Y/C 924 OUT (OPTION)
L:WIDE PE 22B
FROM 3 0 CN3 D/C SERVO
TBC C (G) 23B
TBC C (X) 23A
FROM 6 0 CN1-16 TBC-1
ENH C (X) 25A
ENH C (G) 25B
TO 6 1 CN1-16 TBC-2
LINE OUT1 (X) 32A
LINE OUT1 (G) 31A
LINE OUT2 (X) 32B
LINE OUT2 (G) 31B
OS VIDEO (X) 21A
OS VIDEO (G) 21B
TO 7 1 CN2 REAR-1
TO 4 1 AVM/ONSC
IC501 8VT15
IC29 VC2520
IC6 M5278L05
IC20 BVT15
IC21 (2/2)
IC21(1/2) TC74HC4538AF
IC22 LVA523SA
IC23 TA7347P
IC24 LM6361N
IC25 TA7347P
IC26 TA7347P
IC27 LM6361N
IC28 LM6361N
IC3 M5278L12
IC4 M5278L12
IC5 M5278L12
IC33 M5278L12
IC34 M5278L12
IC32 (2/4)
IC32 (3/4)
IC32 (4/4)
IC32(1/4) TC4011BF
Q45 Q46 Q47 Q48 Q49 Q50 Q51 Q52 Q53 Q55 Q56 Q62 Q65 Q66 Q67
Q31 Q32 Q33 Q34 Q35 Q36 Q37 Q38 Q39 Q40 Q41 Q42 Q43 Q44
2SD601 2SD601A 2SK621
DB RD7.5ES-T1B1
BR-S522E BR-S525E
ADD PULSE1 ADD PULSE2
EQ1 EQ2 EQ3
LPF NOISE SLICE 1 NOISE SLICE 2
DIFFE-RENTIAL DIFFER RECTIFIER LIM MULT ADD VCA2 BIAS
PGZ01552 PGZ00131-015 PGZ01587 PGZ01588
TP2 TP3 TP4 TP5 TP6 TP7 TP8 TP9
GND3 GND4
TBC Y TBC C
D9 D10 D11 D12 D13 D14 D15 D16 D21 D22 D23 D24 D25 D26
J1 J2

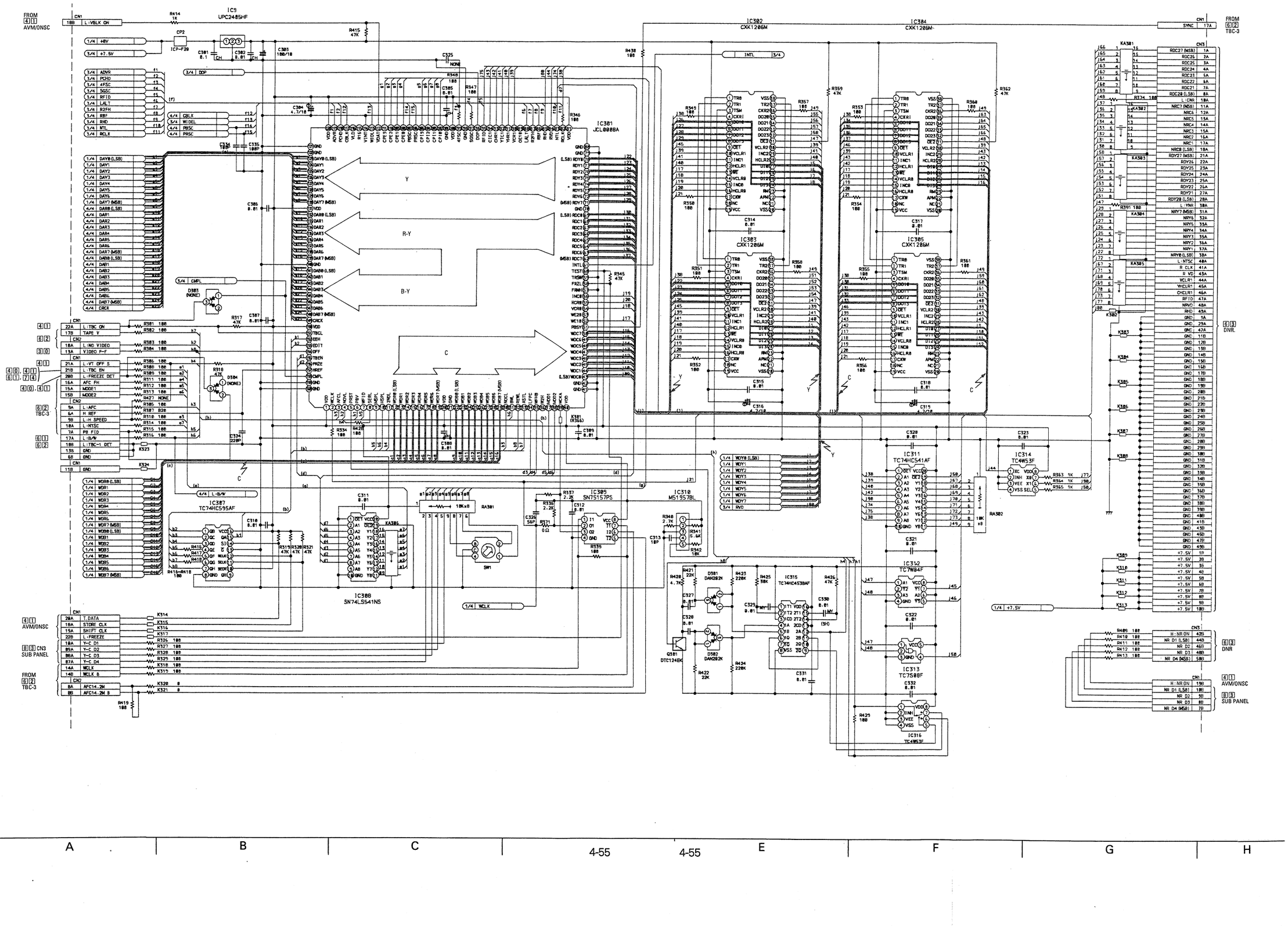
4.44 TBC-1 SCHEMATIC DIAGRAM (BR-S525E)

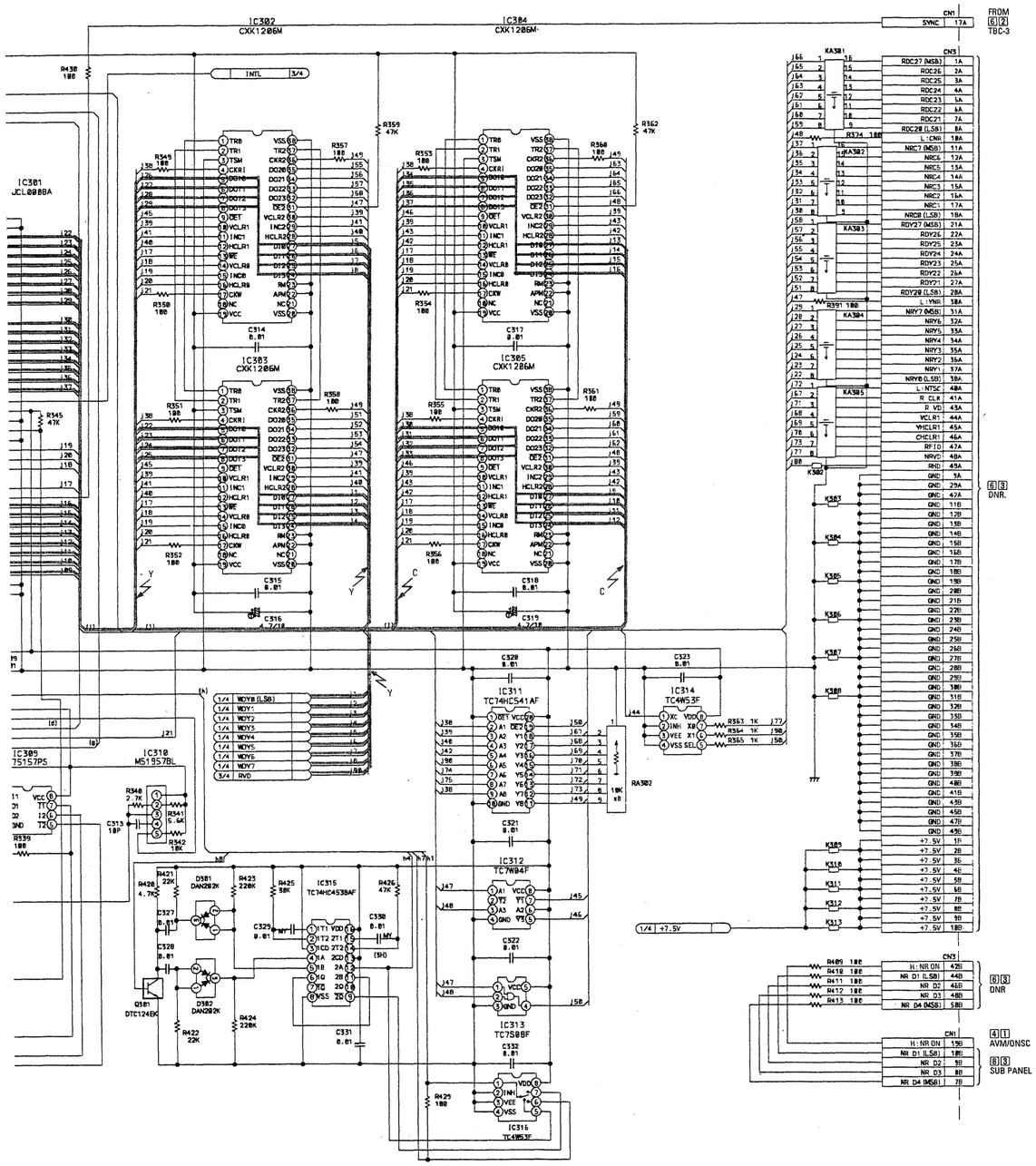
— DIAGRAM (1/4) —

Note: The TBC circuit incorporated in the BR-S525E is different from the TBC circuit (SA-T22E) used in the BR-S822E, BR-S622E and BR-S522E, and they are of course not interchangeable with each other. Therefore, the TBC-1, -2, -3 boards of the BR-S525E cannot be used for the BR-S522E and others. To the contrary, the TBC board (SA-T22E) used in the BR-S522E, etc. is unusable for the BR-S525E.



— DIAGRAM (2/4) —


IC9
UPC2485HF
IC301
JCL0088A
IC302
CXK1206M
IC304
CXK1206M
IC303
CXK1206M
IC305
CXK1206M
IC307
TC74HC595AF
IC308
SN74LS541NS
IC309
SN75157PS
IC310
M51957BL
IC311
TC74HC541AF
IC312
TC7W84F
IC313
TC7S08F
IC314
TC4W53F
IC315
TC74HC4538AF
IC316
TC4W53F
Y
R-Y
B-Y
C
FROM 4 1 AVM/ONSC
FROM 6 2 TBC-3
6 3 DNR
8 3 CN3 SUB PANEL
4 1 AVM/ONSC
8 3 SUB PANEL
A
B
C
4-55
4-55
E
F
G
H



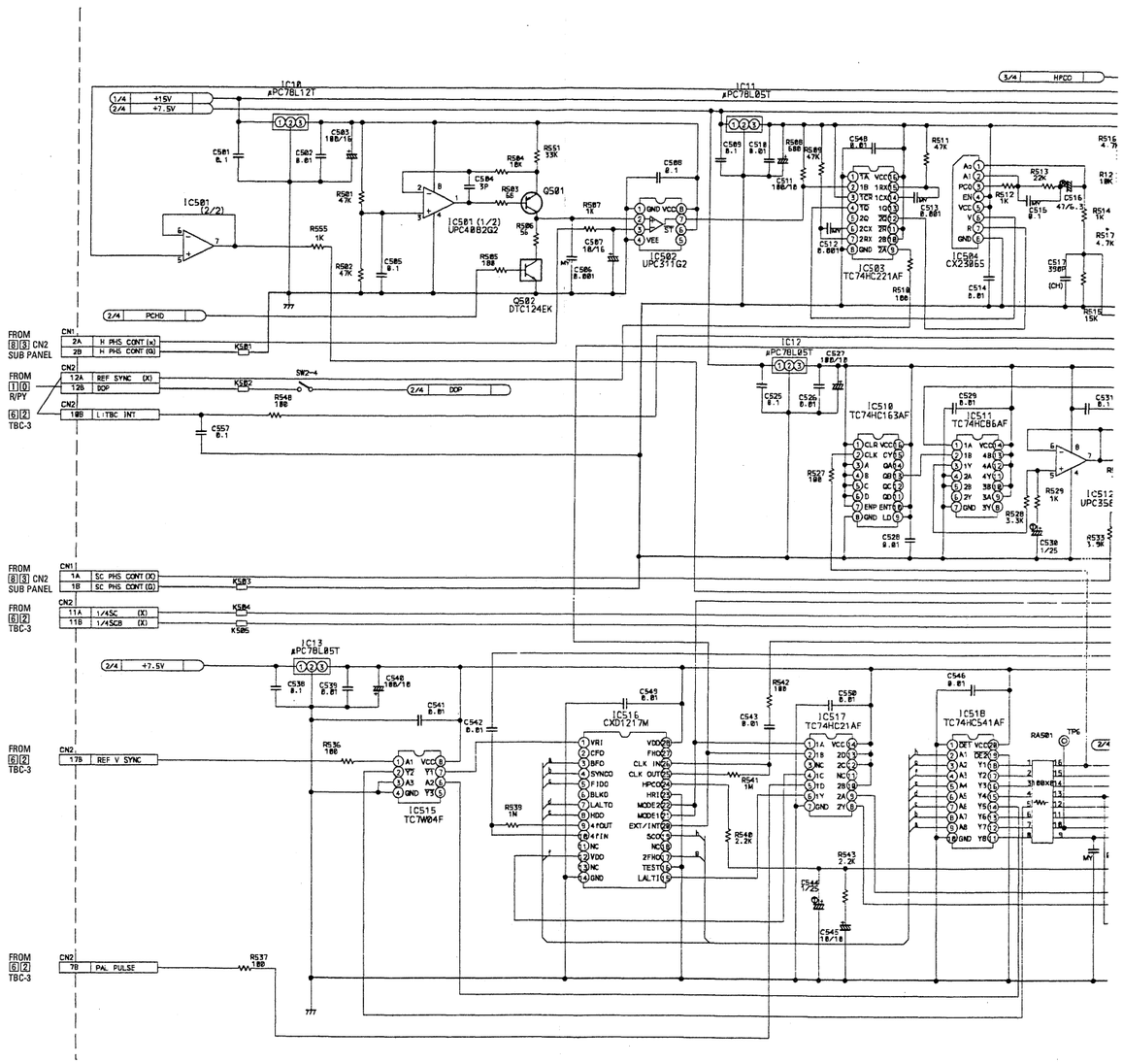
— DC Voltage (1/4) —

SYMBOL No.		PB	SYMBOL No.		PB	SYMBOL No.		PB	SYMBOL No.		PB	SYMBOL No.		PB
INTEGRATED CIRCUIT			IC102	4	−12.2	IC107	1	6.2	IC109	24	0.6	IC301	1	5.1
IC 1	1	14.8	:14D	5	0.0	:12C	2	6.2	:9C	25	0.6	:6D	2	1.8
:13A	2	0.0		6	0.0		3	6.2		26	1.6		3	5.1
	3	12.2		7	0.5		4	0.0		27	2.7		4	5.1
IC 2	1	0.0		8	12.2		5	6.1		28	0.0		5	5.1
:11B	2	−14.9	IC103	1	−11.6		6	6.1		29	0.0		6	5.1
	3	−12.1	:12D	2	0.4		7	6.1		30	0.0		7	*2.8*
IC 3	1	14.7		3	0.4		8	12.2		31	0.0		8	5.7
: 9D	2	0.0		4	−12.1	IC108	1	1.3		32	0.0		9	5.1
	3	5.2		5	0.0	:11B	2	1.3	IC110	1	1.9		10	5.1
IC 4	1	14.8		6	1.9		3	1.5	:9E	2	1.9		11	0.0
:13B	2	0.0		7	12.2		4	1.8		3	1.7		12	2.1
	3	12.2		8	−11.6		5	1.8		4	2.0		13	2.1
IC 5	1	7.9	IC104	1	0.5		6	1.9		5	3.2		14	1.9
:12B	2	0.0	:11D	2	0.0		7	2.0		6	1.7		15	1.8
	3	5.2		3	−12.1		8	2.7		7	1.9		16	1.8
IC 6	1	14.8		4	0.0		9	5.2		8	1.0		17	1.9
: 9B	2	0.0		5	0.1		10	5.2		9	0.0		18	2.0
	3	12.2		6	1.2		11	5.2		10	0.0		19	3.1
IC 7	1	7.9		7	0.5		12	1.9		11	0.5		20	5.1
:15D	2	0.0		8	5.2		13	5.2		12	2.7		21	0.0
	3	5.2	IC105	1	0.0		14	5.2		13	0.0		22	2.1
IC 8	1	14.8	:10D	2	0.0		15	5.1		14	0.0		23	3.0
:15B	2	0.0		3	1.3		16	5.2		15	1.1		24	3.1
	3	12.2		4	1.3		17	2.6		16	1.0		25	3.3
IC 9	1	7.9		5	1.2		18	2.6		17	3.8		26	3.5
: 7B	2	0.0		6	1.8		19	5.2		18	5.2		27	3.2
	3	5.1		7	2.2		20	5.2		19	5.2		28	3.1
IC 10	1	14.8		8	1.6		21	1.6		20	0.3		29	1.9
: 1H	2	0.0		9	1.9		22	0.0		21	0.0		30	5.1
	3	12.2		10	1.0		23	0.0		22	5.2		31	5.2
IC 11	1	7.9		11	0.0		24	0.6		23	5.2		32	5.1
: 4I	2	0.0		12	1.9		25	0.6		24	5.2		33	5.1
	3	5.2		13	5.2		26	1.6	IC111	1	0.6		34	5.1
IC 12	1	7.9		14	5.2		27	2.7	:14B	2	5.7		35	2.6
: 8H	2	0.0		15	5.2		28	0.0		3	5.7		36	0.0
	3	5.2		16	2.8		29	0.0		4	0.0		37	0.0
IC 13	1	7.9		17	2.8		30	0.0		5	− 0.1		38	0.0
: 8B	2	0.0		18	5.2		31	0.0		6	5.7		39	2.1
	3	5.2		19	1.3		32	0.0		7	12.2		40	5.1
IC 14	1	7.9		20	0.0	IC109	1	1.3		8	0.6		41	0.0
:14E	2	0.0		21	0.0	: 9C	2	2.1	IC112	1	6.2		42	0.0
	3	5.2		22	0.7		3	2.5	:11E	2	0.0		43	2.2
IC 15	1	14.8		23	0.7		4	2.8		3	0.0		44	2.6
:10I	2	0.0		24	0.0		5	3.1		4	0.0		45	2.6
	3	12.2	IC106	1	5.2		6	3.1		5	12.2		46	2.5
IC 16	1	7.9	:11E	2	0.1		7	3.0		6	6.2		47	2.6
:15H	2	0.0		3	1.9		8	1.8		7	5.9		48	2.5
	3	5.2		4	5.2		9	5.2		8	12.2		49	2.5
IC 17	1	14.8		5	0.1		10	5.2	IC113	1	− 2.7		50	2.7
:15E	2	0.0		6	5.1		11	5.2	:11E	2	0.0		51	4.8
	3	12.2		7	0.0		12	1.9		3	0.0		52	0.1
IC101	1	6.2		8	5.2		13	5.2		4	12.2		53	5.1
:14D	2	0.0		9	5.2		14	5.2		5	1.5		54	0.1
	3	0.0		10	0.0		15	5.1		6	1.5		55	0.1
	4	0.0		11	0.0		16	5.2		7	1.5		56	0.1
	5	11.9		12	0.0		17	0.0		8	6.2		57	0.1
	6	6.2		13	0.0		18	2.6		9	6.2		58	5.1
	7	6.1		14	5.2		19	5.2		10	6.2		59	0.1
	8	12.2					20	5.2		11	−12.1		60	5.1
IC102	1	− 2.9					21	1.6		12	0.0		61	5.1
:14D	2	0.5					22	0.0		13	0.0			
	3	0.5					23	0.0		14	−10.8			

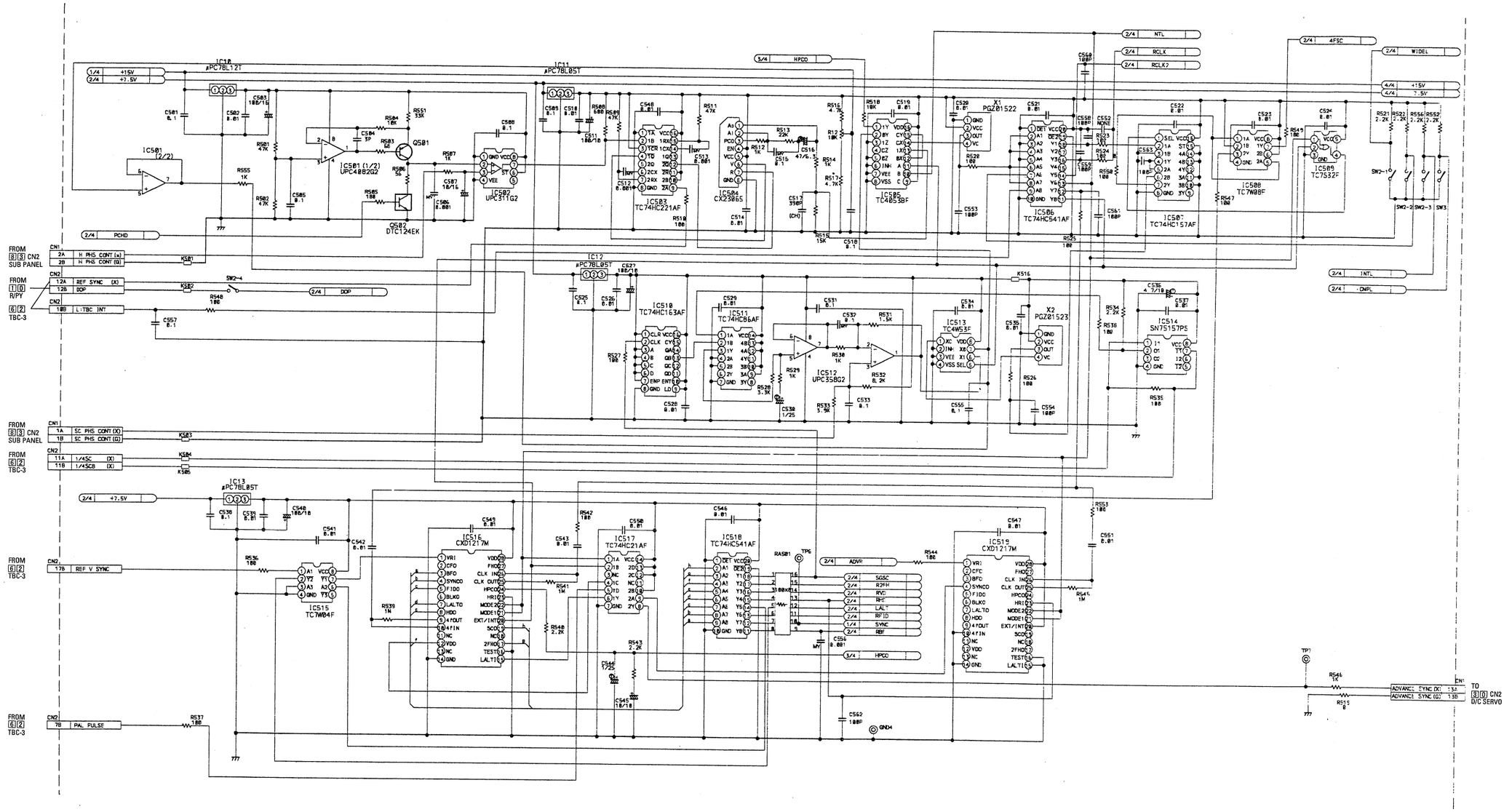
— DC Voltage (2/4) —

SYMBOL No.	PB	SYMBOL No.	PB	SYMBOL No.	PB	SYMBOL No.	PB	SYMBOL No.	PB
IC301 62	–	IC301 125	2.1	IC302 28	0.0	IC304 15	0.0	IC307 1	5.1
:6D 63	–	:6D 126	2.7	:3F 29	0.0	:3D 16	0.0	: 2B 2	5.1
64	–	127	3.5	30	0.0	17	1.9	3	0.0
65	–	128	1.7	31	0.1	18	0.0	4	5.1
66	–	129	1.9	32	0.9	19	5.1	5	5.1
67	–	130	1.0	33	1.8	20	0.0	6	5.1
68	–	131	5.1	34	0.0	21	0.0	7	5.1
69	–	132	2.0	35	0.0	22	0.0	8	0.0
70	0.0	133	2.0	36	0.0	23	0.0	9	5.1
71	0.8	134	2.0	37	0.0	24	0.9	10	5.1
72	1.7	135	1.9	38	0.0	25	1.9	11	5.0
73	1.4	136	1.9	IC303 1	0.4	26	1.5	12	0.0
74	2.5	137	1.9	: 3F 2	0.4	27	2.3	13	0.0
75	3.1	138	1.9	3	5.1	28	0.0	14	5.0
76	2.4	139	3.2	4	2.6	29	0.0	15	5.1
77	2.3	140	0.0	5	2.0	30	0.0	16	5.1
78	2.3	141	–	6	2.0	31	0.0	IC308 1	0.0
79	0.0	142	–	7	2.0	32	0.9	: 3B 2	5.1
80	0.0	143	–	8	2.0	33	1.8	3	0.0
81	5.1	144	–	9	5.1	34	*2.6*	4	0.0
82	2.6	145	–	10	0.0	35	–	5	2.6
83	4.7	146	–	11	0.0	36	2.6	6	5.1
84	5.1	147	–	12	0.0	37	0.4	7	5.1
85	4.6	148	2.7	13	0.0	38	0.0	8	0.1
86	5.0	149	2.7	14	0.0	IC305 1	0.4	9	1.3
87	1.7	150	5.1	15	0.0	: 3D 2	0.4	10	0.0
88	2.6	151	0.0	16	0.0	3	5.1	11	3.9
89	0.0	152	5.1	17	1.9	4	2.6	12	0.2
90	0.0	153	5.1	18	0.0	5	*4.2*	13	5.0
91	0.0	154	2.9	19	5.1	6	*4.0*	14	3.8
92	0.0	155	0.0	20	0.0	7	–	15	2.1
93	0.0	156	5.1	21	0.0	8	–	16	0.1
94	0.0	157	0.6	22	0.0	9	5.1	17	0.1
95	2.5	158	4.8	23	0.0	10	0.0	18	3.7
96	0.0	159	0.0	24	1.9	11	0.0	19	0.0
97	2.6	160	0.0	25	1.6	12	0.0	20	5.1
98	0.0	IC302 1	0.4	26	1.6	13	0.0	IC309 1	1.6
99	2.8	:3F 2	0.4	27	1.5	14	0.0	:2B 2	1.8
100	5.1	3	0.0	28	0.0	15	0.0	3	1.9
101	0.0	4	2.6	29	0.0	16	0.0	4	0.0
102	5.1	5	*4.6*	30	0.0	17	1.9	5	1.6
103	0.0	6	1.5	31	0.0	18	0.0	6	1.6
104	5.1	7	1.9	32	*3.3*	19	5.1	7	1.6
105	0.0	8	1.0	33	*3.5*	20	0.0	8	5.1
106	2.5	9	5.1	34	*3.5*	21	0.0	IC310 1	5.1
107	2.5	10	0.0	35	*3.4*	22	0.0	:1B 2	1.7
108	0.1	11	0.0	36	2.6	23	0.0	3	0.0
109	0.1	12	0.0	37	0.3	24	–	4	1.2
110	0.1	13	0.0	38	0.0	25	–	5	5.1
111	5.1	14	0.0	IC304 1	0.4	26	–	IC311 1	0.0
112	5.0	15	0.0	:3D 2	0.4	27	–	:2F 2	2.7
113	5.1	16	0.0	3	0.0	28	0.0	3	0.0
114	0.0	17	1.9	4	2.7	29	0.0	4	0.0
115	2.5	18	0.0	5	–	30	0.0	5	0.0
116	5.0	19	5.1	6	*2.2*	31	0.1	6	5.1
117	4.2	20	0.0	7	2.5	32	–	7	5.1
118	2.6	21	0.0	8	–	33	–	8	*2.3*
119	5.0	22	0.0	9	5.1	34	–	9	2.7
120	5.1	23	0.0	10	0.0	35	–	10	0.0
121	0.0	24	1.0	11	0.0	36	2.6	11	2.6
122	0.0	25	1.9	12	0.0	37	0.3	12	*2.3*
123	2.1	26	1.5	13	0.0	38	0.0	13	5.0
124	2.1	27	2.2	14	0.0			14	5.0

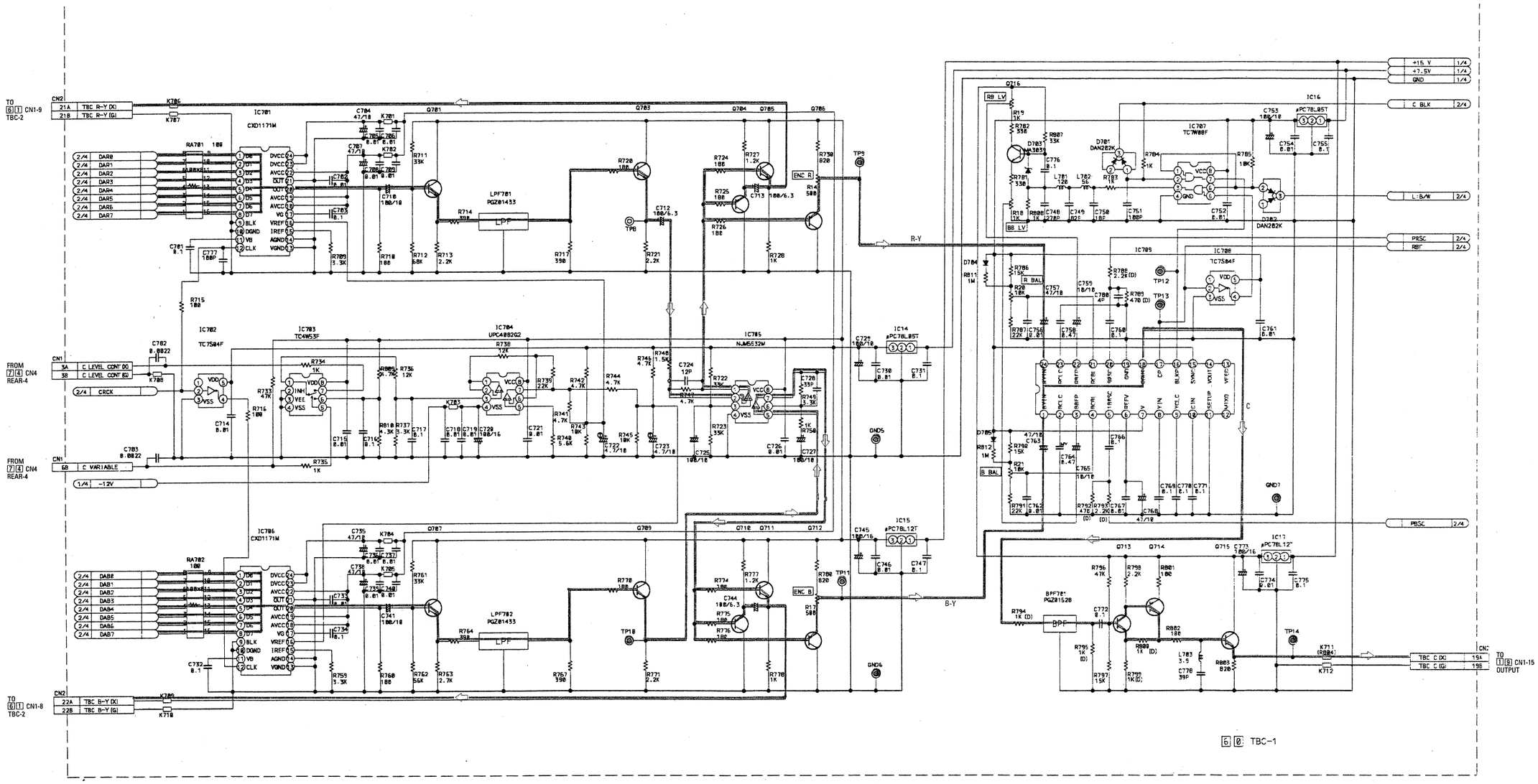
— DIAGRAM (3/4) —

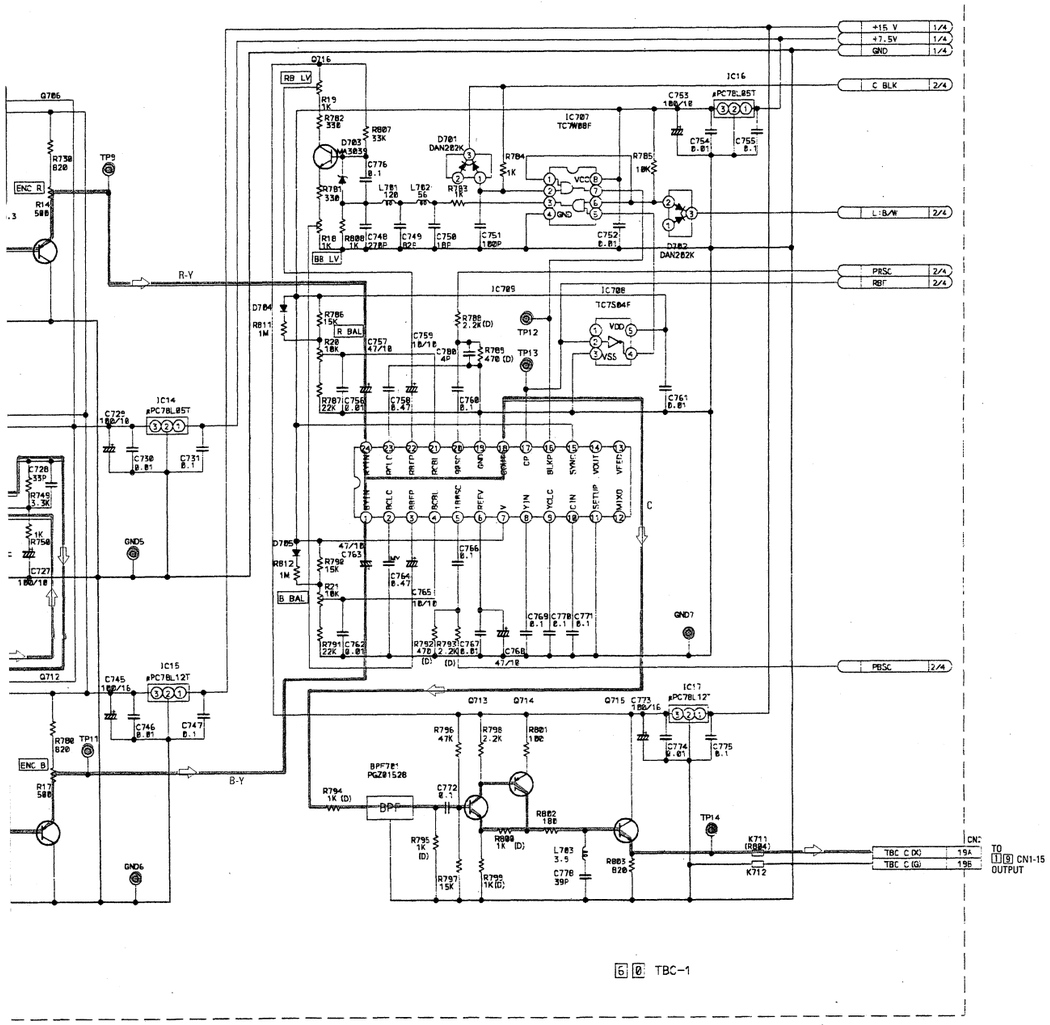


— DIAGRAM (3/4) —


IC10 μPC78L12T
IC11 μPC78L05T
IC12 μPC78L05T
IC13 μPC78L05T
IC501 (1/2)
IC501 (1/2) UPC4082G2
IC502 UPC311G2
IC503 TC74HC221AF
IC504 CXA2065
IC505 TC4053BF
IC506 TC74HC541AF
IC507 TC74HC157AF
IC508 TC7W08F
IC509 TC7S32F
IC510 TC74HC163AF
IC511 TC74HC86AF
IC512 UPC358G2
IC513 TC4W53F
IC514 SN75157PS
IC515 TC7W04F
IC516 CXD1217M
IC517 TC74HC21AF
IC518 TC74HC541AF
IC519 CXD1217M
X1 PQZ01522
X2 PQZ01523
Q501
Q502 DTC124EK
+15V
+7.5V
PCHD
DOP
NTL
RCLK
RCLK2
4FSC
WIDEL
INTL
CMPL
HPCO
ADVR
SGSC
R2FH
RVC
R-C
LALT
RFID
SYNC
RBF
FROM SUB PANEL CN1 2A H PHS CONT (W) 2B H PHS CONT (G)
FROM TBC-3 CN2 12A REF SYNC (X) 12B DOP 10B L-TBC INT
FROM SUB PANEL CN1 1A SC PHS CONT (X) 1B SC PHS CONT (G)
FROM TBC-3 CN2 11A 1/4SC (X) 11B 1/4SCB (X)
FROM TBC-3 CN2 7B REF V SYNC
FROM TBC-3 CN2 7B PAL PULSE
TO D/C SERVO CN1 3A ADVANCE SYNC (X) 3B ADVANCE SYNC (G)
SW2-4
SW2-1
SW2-2
SW2-3
SW3
TP5
TP6
GND4

— DIAGRAM (4/4) —


TO 6 1 CN1-9 TBC-2
CN2
21A TBC R-Y (K)
21B TBC R-Y (G)
K786
K787
IC781 CXD1171M
C784 47/16
K781
Q781
Q783
Q784
Q785
Q786
RA781 100
2/4 DAB0
2/4 DAB1
2/4 DAB2
2/4 DAB3
2/4 DAB4
2/4 DAB5
2/4 DAB6
2/4 DAB7
DVCC
AVCC
OUT
VG
VREF
IREF
AGND
VGND
BLK
DGND
VB
CLK
C782 0.01
C707 47/16
K782
C706 0.01
C705 0.01
C718 100/10
R711 33K
R714 330
LPF781 PQZ81433
LPF
R728 100
R724 100
R727 1.2K
R725 100
R726 100
C713 100/6.3
R730 820
ENC R
TP9
TP8
C712 100/6.3
R721 2.2K
R717 390
R712 68K
R713 2.2K
R718 100
R709 5.3K
C781 0.1
C777 100P
R715 100
R-Y
IC782 TC7S84F
IC783 TC4W53F
IC784 UPC4882G2
IC785 NJM5532M
C725 100/10
IC14 #PC78L05T
C730 0.01
C731 0.1
GND5
C782 0.0022
K788
R734 1K
R733 47K
R736 12K
R738 12K
R739 2.2K
R742 4.7K
R744 4.7K
R746 4.7K
R748 1.5K
C724 12P
R722 33K
R723 33K
R745 10K
R743 10K
R741 4.7K
R740 5.6K
R747 4.7K
C720 330P
R750 3.3K
1K R750
C722 4.7/16
C723 4.7/16
C725 100/10
C726 0.01
C727 100/10
C721 0.01
C719 0.01
C718 0.01
C720 100/16
R810 4.3K
R737 3.3K
C717 0.1
C716 0.1
C715 0.01
R716 100
C714 0.01
FROM 7 4 CN4 REAR-4
CN1
5A C LEVEL CONT DO
5B C LEVEL CONT EO
2/4 CRCK
C783 0.0022
R735 1K
6B C VARIABLE
1/4 -12V
IC786 CXD1171M
RA782 100
C755 47/16
K784
C736 0.01
C735 0.01
C733 0.1
C734 0.1
C732 0.1
C741 100/10
R761 33K
R764 39K
LPF782 PQZ81433
LPF
R778 100
R774 1.2K
C744 100/6.3
R775 100
R776 100
R780 820
ENC B
TP11
TP18
B-Y
R779 500
R759 3.3K
R760 100
R762 56K
R763 2.7K
R767 390
R771 2.2K
R778 1K
GND6
C745 100/16
IC15 #PC78L12T
C746 0.01
C747 0.1
CN2
22A TBC B-Y (K)
22B TBC B-Y (G)
K789
K778
TO 6 1 CN1-8 TBC-2
IC16 #PC78L05T
C753 100/10
C754 0.01
C755 0.1
+15 V 1/4
+7.5V 1/4
GND 1/4
C BLK 2/4
L/BLK 2/4
PBSC 2/4
RBT 2/4
Q716
RB LV
R19 1K
R782 330
R807 33K
D783 MA3039
D781 DAN202K
IC787 TC7W88F
C776 0.1
L781 120
L782 56
R783 1K
R784 1K
R785 1K
R780 330
R18 1K
R808 1K
C748 C749 C750 C751 100P
C752 0.01
D782 DAN202K
BB LV
IC789
IC788 TC7S84F
R786 15K
R BAL
R20 10K
C757 47/16
C759 100/10
C758 4P
R788 2.2K(D)
R785 470 (D)
TP12
TP13
R787 22K
C756 0.01
C760 0.1
C761 0.01
D784
RB11 1M
C763 47/16
C764 0.47
C765 100/10
D785
R812 1M
R792 15K
R21 10K
B BAL
R791 22K
C762 0.01
R793 2.2K(D)
C767 0.01
C768 47/16
C769 0.1
C778 2.1
C771 0.1
GND7
PBSC 2/4
Q713
Q714
Q715
C773 100/16
IC17 #PC78L12T
C774 0.01
C775 0.1
R796 47K
R798 2.2K
R801 100
BPF781 PQZ81528
BPF
R794 1K (D)
C772 0.1
R795 1K (D)
R797 15K
R799 1K (G)
R802 100
L783 3.5
C778 39P
R803 820
TP14
K711 (RB84)
K712
CN1
TBC C (K) 19A
TBC C (G) 19B
TO 1 9 CN1-15 OUTPUT
6 0 TBC-1



— DC Voltage (3/4) —

SYMBOL No.		PB	SYMBOL No.		PB	SYMBOL No.		PB	SYMBOL No.		PB	SYMBOL No.		PB
IC311	15	0.0	IC504	1	0.4	IC508	1	2.6	IC514	5	2.3	IC518	10	0.0
: 2F	16	0.0	: 3I	2	4.2	: 5I	2	5.2	: 6G	6	2.3	: 7C	11	5.0
	17	0.0		3	4.2		3	2.8		7	2.2		12	4.7
	18	2.6		4	5.2		4	0.0		8	5.2		13	*2.3*
	19	0.0		5	5.2		5	2.6	IC515	1	5.2		14	2.6
	20	5.1		6	1.1		6	5.2	: 8B	2	0.0		15	4.6
IC312	1	0.1		7	5.2		7	2.7		3	0.0		16	5.1
: 5F	2	0.0		8	0.0		8	5.2		4	0.0		17	1.7
	3	0.1	IC505	1	2.4	IC509	1	5.1		5	5.2		18	2.5
	4	0.0	: 3G	2	3.0	: 4H	2	0.0		6	2.6		19	0.0
	5	5.1		3	0.0		3	0.0		7	0.0		20	5.2
	6	5.1		4	0.0		4	5.2		8	5.2	IC519	1	5.0
	7	5.1		5	0.0		5	5.2	IC516	1	0.0	: 8H	2	5.2
	8	5.1		6	0.0	IC510	1	5.2	: 7B	2	5.2		3	5.0
IC313	1	0.1		7	0.0	: 5H	2	2.6		3	5.0		4	4.8
: 5E	2	0.1		8	0.0		3	5.2		4	4.8		5	*2.3*
	3	0.5		9	5.2		4	5.2		5	*2.3*		6	3.9
	4	0.0		10	5.2		5	5.2		6	3.9		7	2.6
	5	5.1		11	0.0		6	5.2		7	2.6		8	4.6
IC314	1	5.1		12	2.4		7	5.2		8	4.6		9	5.2
: 5G	2	0.0		13	0.4		8	0.0		9	2.5		10	0.0
	3	0.0		14	2.4		9	5.2		10	2.5		11	–
	4	0.0		15	2.4		10	5.2		11	0.0		12	5.1
	5	0.1		16	5.2		11	2.6		12	5.1		13	–
	6	5.1	IC506	1	0.0		12	2.6		13	0.0		14	0.0
	7	0.0	: 3G	2	2.6		13	2.6		14	0.0		15	0.0
	8	5.1		3	0.0		14	2.5		15	0.0		16	0.0
IC501	1	5.6		4	2.6		15	0.4		16	0.0		17	1.7
: 1H	2	6.1		5	0.0		16	5.2		17	1.7		18	–
	3	6.1		6	2.6	IC511	1	0.2		18	0.0		19	5.2
	4	0.0		7	5.2	: 5H	2	2.6		19	1.2		20	5.2
	5	3.0		8	2.6		3	2.6		20	0.0		21	5.1
	6	3.0		9	0.9		4	0.0		21	5.1		22	5.1
	7	3.0		10	0.0		5	0.0		22	5.1		23	4.6
	8	12.2		11	0.0		6	0.0		23	0.0		24	0.0
IC502	1	0.0		12	2.6		7	0.0		24	2.2		25	2.5
: 2H	2	1.0		13	5.1		8	0.0		25	2.5		26	2.5
	3	2.1		14	2.6		9	5.2		26	2.5		27	2.6
	4	0.0		15	0.0		10	5.2		27	2.6		28	5.2
	5	12.2		16	2.6		11	0.0		28	5.2	IC701	1	1.9
	6	12.2		17	0.0		12	5.2	IC517	1	5.1	: 9H	2	1.6
	7	1.6		18	2.6		13	5.2	: 8B	2	0.0		3	–
	8	12.2		19	0.0		14	5.2		3	0.0		4	*3.3*
IC503	1	0.0		20	0.0	IC512	1	3.0		4	5.0		5	*2.6*
: 3G	2	1.6	IC507	1	5.2	: 6H	2	2.6		5	0.9		6	1.6
	3	5.2	: 4G	2	2.7		3	2.6		6	0.0		7	1.7
	4	1.1		3	0.0		4	0.0		7	0.0		8	3.4
	5	0.0		4	0.0		5	2.6		8	4.8		9	0.0
	6	0.0		5	0.0		6	2.2		9	4.8		10	0.0
	7	5.2		6	2.4		7	2.2		10	5.2		11	0.5
	8	0.0		7	2.6		8	5.2		11	0.0		12	2.2
	9	5.2		8	0.0	IC513	1	3.0		12	5.2		13	0.1
	10	5.2		9	0.0	: 6G	2	0.0		13	5.2		14	0.1
	11	5.2		10	0.0		3	0.0		14	5.2		15	0.8
	12	5.2		11	0.0		4	0.0	IC518	1	0.0		16	0.7
	13	4.1		12	0.0		5	0.0	: 7C	2	1.8		17	3.9
	14	0.0		13	0.0		6	3.0		3	1.7		18	5.2
	15	3.8		14	0.0		7	3.0		4	5.1		19	5.2
	16	5.2		15	0.0		8	5.2		5	4.6		20	0.4
				16	5.2	IC514	1	1.6		6	2.6		21	0.1
						: 6G	2	0.2		7	*2.3*		22	5.2
							3	0.2		8	4.8		23	5.2
							4	0.0		9	5.0		24	5.2

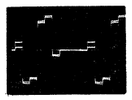
— DC Voltage (4/4) —

SYMBOL No.		PB	SYMBOL No.		PB	SYMBOL No.		PB	SYMBOL No.		PB	SYMBOL No.		PB
IC702	1	0.0	IC708	1	0.0	Q112	B	0.9	Q709	B	3.1	CN1	20 B	4.9
:10G	2	2.2	:13H	2	5.0	:15E	C	12.2	:12G	C	12.2		21A	6.0
	3	0.0		3	0.0		E	0.3		E	2.5		21 B	0.5
	4	2.7		4	0.2	Q113	B	4.2	Q710	B	2.5		22A	0.0
	5	5.2		5	5.2	:13E	C	12.2	:11G	C	0.0		22 B	5.0
IC703	1	5.1	IC709	1	2.5		E	3.6		E	3.1	CN2	1AB	0.0
:12G	2	0.0	:15G	2	1.7	Q114	B	4.2	Q711	B	2.5		2AB	0.0
	3	0.0		3	3.0	:15D	C	9.1	:11G	C	12.2		3AB	7.9
	4	0.0		4	3.1		E	3.6		E	1.9		4AB	14.8
	5	12.2		5	3.7	Q115	B	9.1	Q712	B	2.5		5AB	14.9
	6	5.1		6	3.1	:15C	C	12.2	:11G	C	0.0		6A	0.6
	7	6.5		7	5.2		E	8.4		E	3.1		6 B	0.0
	8	12.2		8	2.5	Q116	B	6.9	Q713	B	3.0		7A	2.2
IC704	1	1.1		9	1.7	:15C	C	12.2	:15F	C	11.4		7 B	0.9
:13G	2	1.1		10	3.1		E	6.3		E	2.5		8A	1.6
	3	1.1		11	0.0	Q117	B	1.9	Q714	B	11.4		8 B	1.5
	4	-12.1		12	1.7	:14B	C	1.9	:13E	C	4.4		9A	5.2
	5	0.0		13	0.0		E	1.3		E	12.0		9 B	3.7
	6	0.0		14	4.4	Q118	B	6.3	Q715	B	4.4		10A	3.5
	7	- 3.5		15	5.2	:15C	C	12.2	:14E	C	12.2		10 B	0.8
	8	12.2		16	4.3		E	5.7		E	3.8		11A	1.6
IC705	1	2.6		17	5.0	Q119	B	1.9	Q716	B	3.1		11 B	2.2
:13F	2	2.6		18	2.6	:14B	C	5.7	:13H	C	9.9		12A	5.2
	3	2.6		19	0.0		E	1.3		E	2.4		12 B	0.0
	4	0.0		20	3.7	Q120	B	6.3	**CONNECTOR**				13A	2.1
	5	2.5		21	3.1	:15B	C	9.1	CN1	1A	1.2		13 B	0.0
	6	2.5		22	3.0		E	5.7		1 B	0.0		14A	5.5
	7	2.5		23	1.7	Q121	B	1.9		2A	2.3		14 B	0.0
	8	12.2		24	2.5	:14B	C	5.7		2 B	0.0		15A	3.3
IC706	1	1.7	**TRANSISTOR**				E	1.3		3A	6.4		15 B	0.0
:10G	2	2.0	Q101	B	6.6	Q123	B	6.3		3 B	0.0		16A	3.3
	3	2.1	:14C	C	12.2	:15B	C	12.2		4A	6.1		16 B	0.0
	4	2.1		E	6.0		E	5.7		4 B	0.0		17A	5.2
	5	2.3	Q102	B	2.0	Q124	B	5.7		5A	5.9		17 B	5.1
	6	1.6	:14C	C	12.3	:14A	C	0.0		5 B	0.0		18A	5.1
	7	1.7		E	1.4		E	6.3		6A	12.1		18 B	0.0
	8	2.9	Q103	B	6.2	Q125	B	5.7		6 B	12.1		19A	3.8
	9	0.0	:14C	C	12.3	:14A	C	12.2		7A	5.1		19 B	0.0
	10	0.0		E	5.6		E	5.0		7 B	0.0		20A	4.9
	11	0.5	Q104	B	- 0.5	Q501	B	5.5		8A	0.0		20 B	0.0
	12	2.6	:13D	C	-12.1	: 2H	C	1.0		8 B	0.8		21A	2.0
	13	0.0		E	0.1		E	6.1		9A	0.0		21 B	0.0
	14	0.0	Q105	B	1.9	Q502	B	2.6		9 B	0.0		22A	1.9
	15	0.8	:12E	C	12.2	: 2H	C	1.0		10A	0.0		22 B	0.0
	16	0.7		E	1.2		E	0.0		10 B	0.8			
	17	3.8	Q106	B	1.9	Q701	B	7.1		11A	12.2			
	18	5.2	:11D	C	-12.1	:10H	C	12.2		11 B	0.0			
	19	5.2		E	2.4		E	6.5		12A	12.2			
	20	0.4	Q107	B	6.6	Q703	B	3.2		13 B	4.8			
	21	0.0	:13C	C	12.2	:12G	C	12.2		13A	0.0			
	22	5.2		E	5.9		E	2.6		14 B	1.6			
	23	5.2	Q108	B	6.5	Q704	B	2.6		14A	1.5			
	24	5.2	:13C	C	12.2	:11H	C	0.0		15 B	0.1			
IC707	1	5.2		E	5.9		E	3.3		15A	0.1			
:13H	2	4.2	Q109	B	3.1	Q705	B	2.6		16 B	1.9			
	3	0.2	:12F	C	5.2	:11H	C	12.2		16A	0.1			
	4	0.0		E	2.5		E	2.0		17A	4.7			
	5	0.2	Q110	B	2.5	Q706	B	2.6		17 B	5.1			
	6	5.2	:12E	C	-12.1	:12H	C	0.0		18A	0.0			
	7	4.3		E	3.1		E	3.3		18 B	5.0			
	8	5.2	Q111	B	0.4	Q707	B	6.8		19A	4.9			
			:14E	C	-12.1	:11G	C	12.2		19 B	0.2			
				E	1.0		E	6.2		20A	5.0			

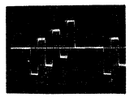
— MAIN WAVEFORMS OF TBC-2 CIRCUIT —



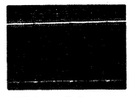
TP1 2.2 Vp-p
TP4 1.0 Vp-p
TP5 1.0 Vp-p



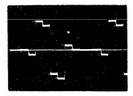
TP2 1.3 Vp-p
TP8 0.2 Vp-p



TP3 1.0 Vp-p
TP10 0.2 Vp-p
TP11 0.4 Vp-p



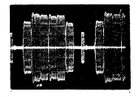
TP6 5.0 Vp-p
TP7 5.2 Vp-p
TP13 5.2 Vp-p
(15.625kHz)



TP9 0.57 Vp-p



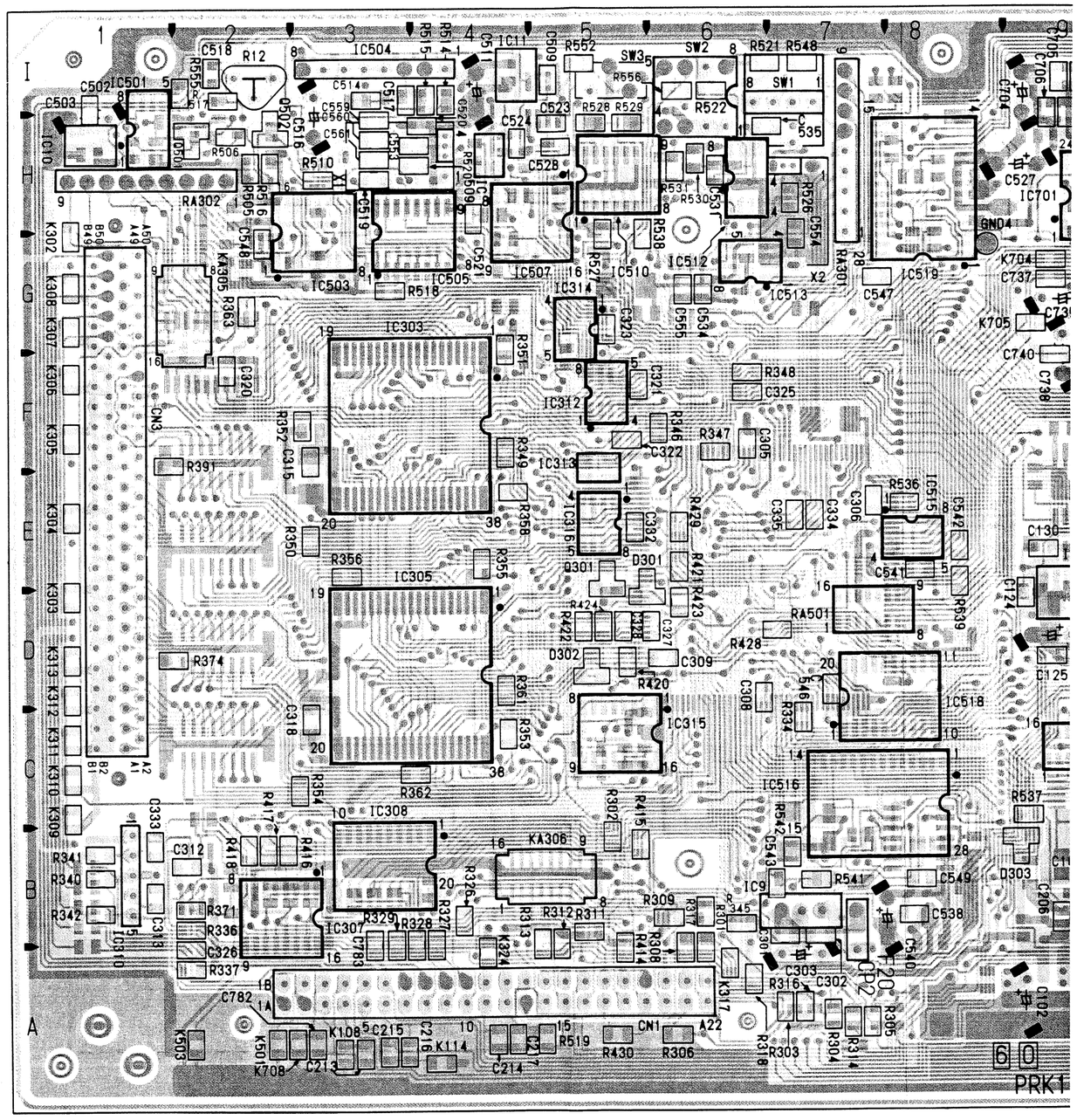
TP12 5.0 Vp-p
(15.625 kHz)



TP14 0.8 Vp-p

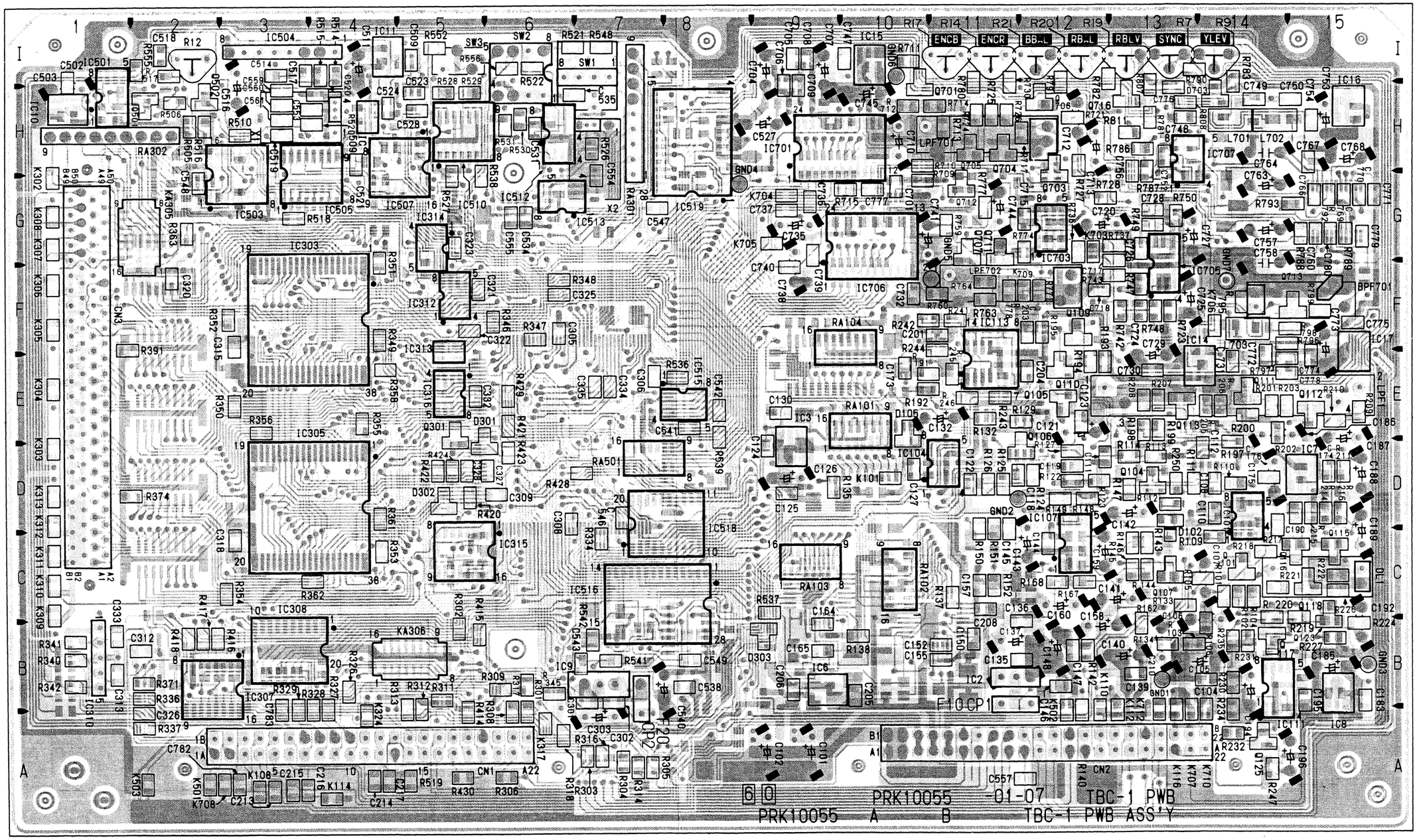
4.45 TBC-1 CIRCUIT BOARD (BR-S525E)

(SOLDER SIDE)

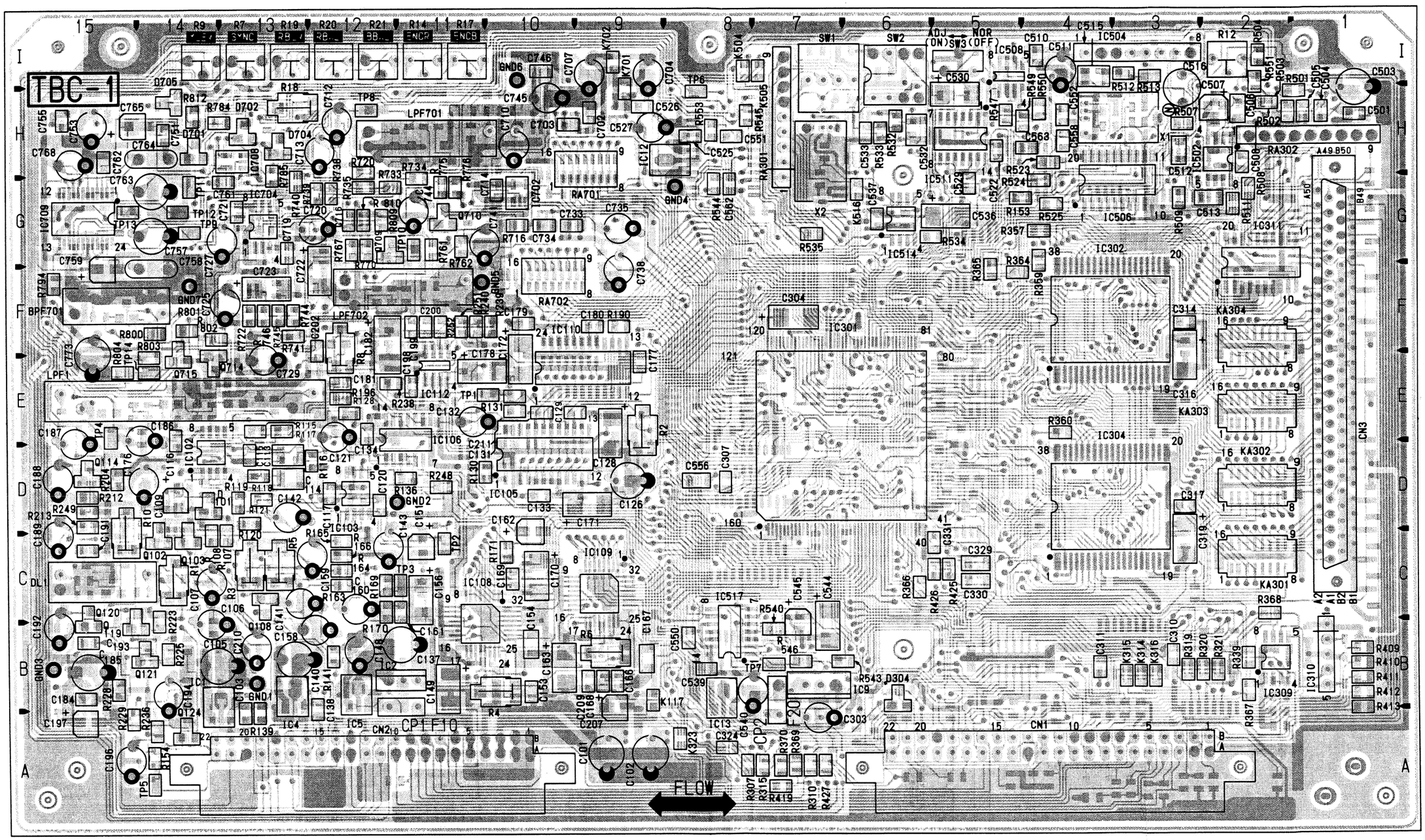


4.45 TBC-1 CIRCUIT BOARD (BR-S525E)

(SOLDER SIDE)

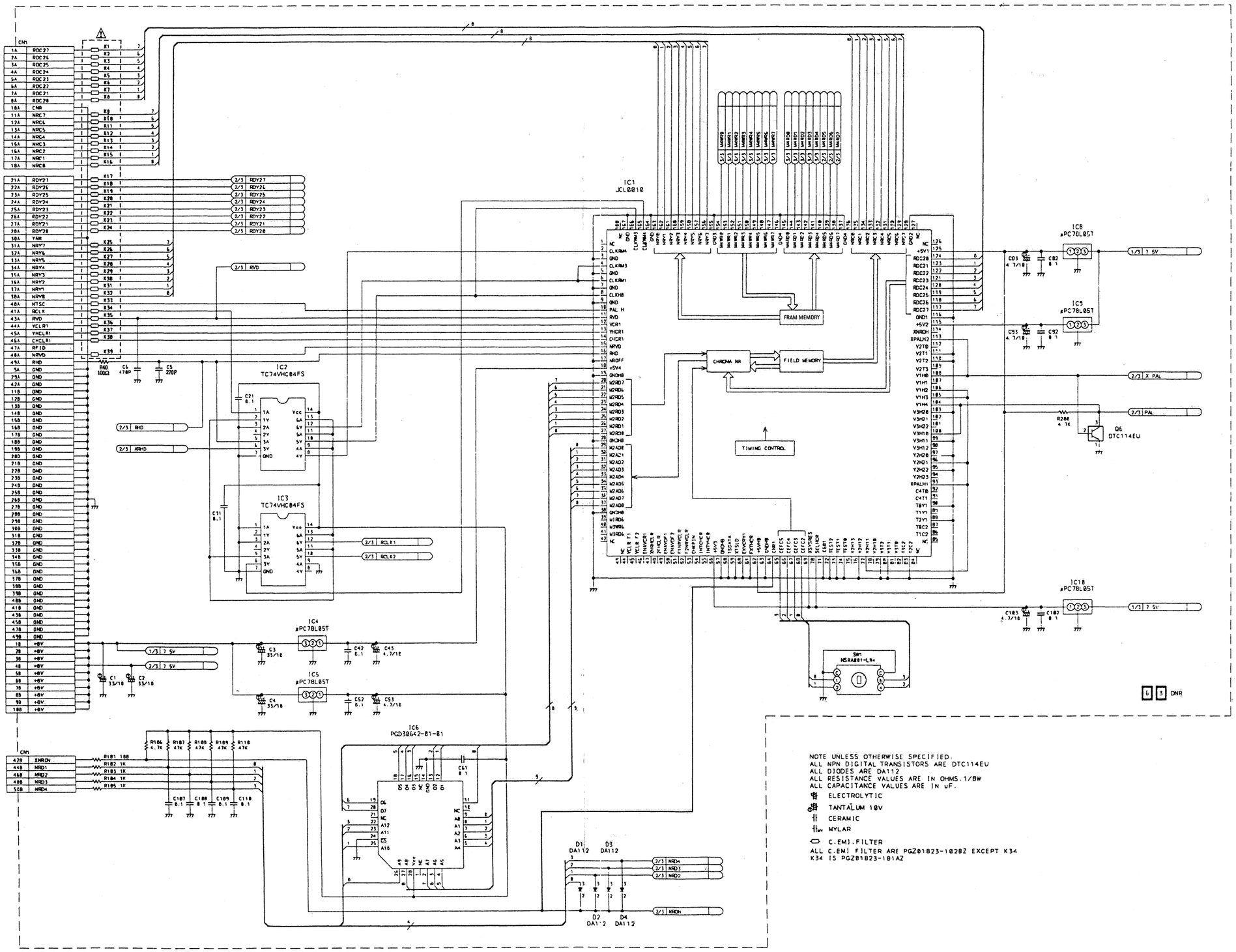


(PARTS SIDE)

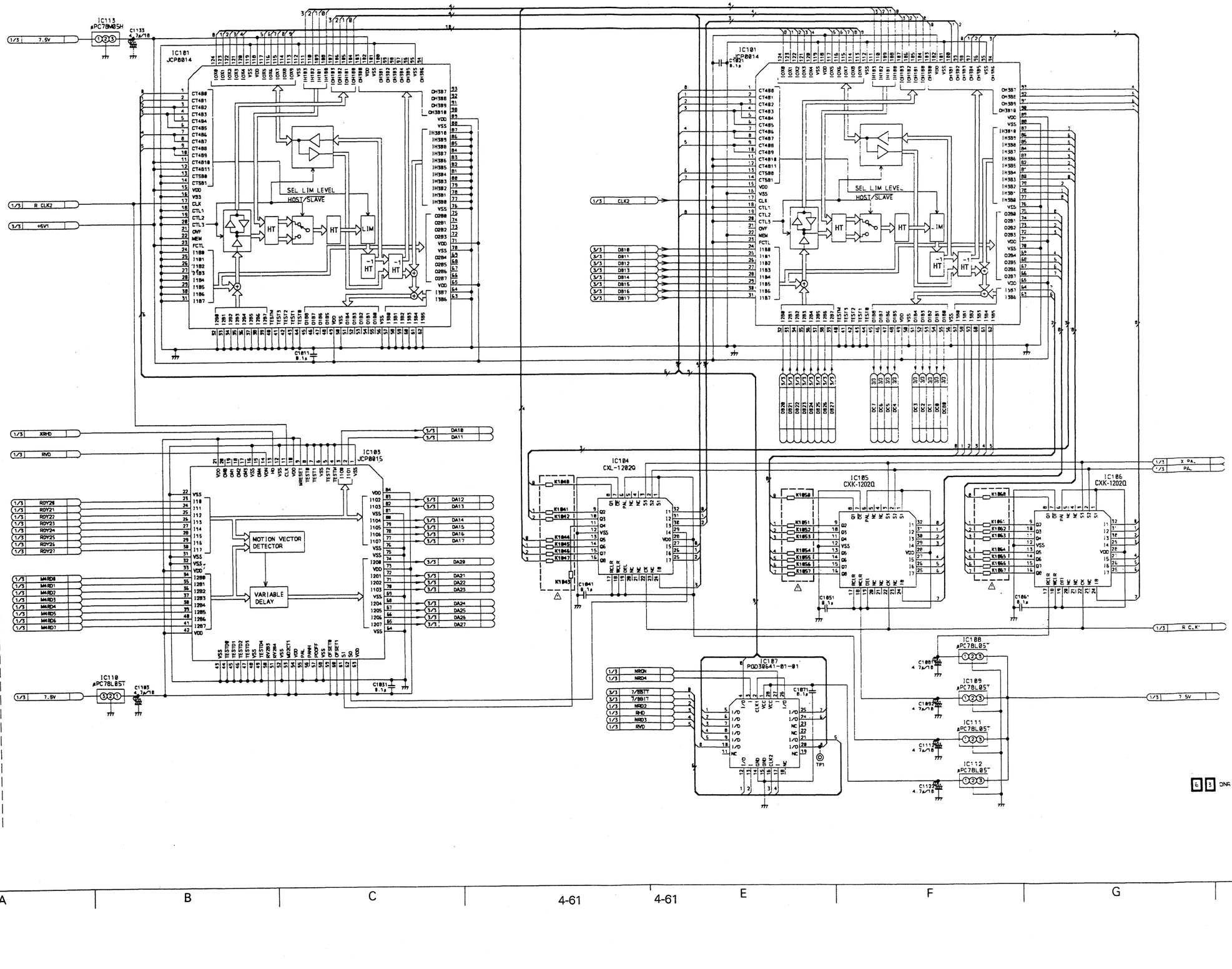

TBC-1
FLOW
CP1
CP2
CN1
CN2
CN3
IC504
IC506
IC514
IC302
IC304
IC301
IC311
IC309
IC310
IC517
IC13
IC4
IC5
IC105
IC106
IC108
IC109
IC110
IC112
IC103
IC9
SW1
SW2
SW3
ADJ
NOR
(ON)
(OFF)
LPF701
LPF702
BPF701
LPF1
RA701
RA702
RA302
KA304
KA303
KA302
KA301
X1
X2
D705
D702
D704
D701
D706
D709
D710
D714
D715
D304
Q715
Q714
Q120
Q121
Q124
Q102
Q103
Q108
Q114
TP1
TP2
TP3
TP4
TP5
TP6
TP7
TP8
TP9
TP11
TP12
TP13
TP14
GND1
GND2
GND3
GND4
GND5
GND6
A49,B50
A50
B49
A1
A2
B1
B2

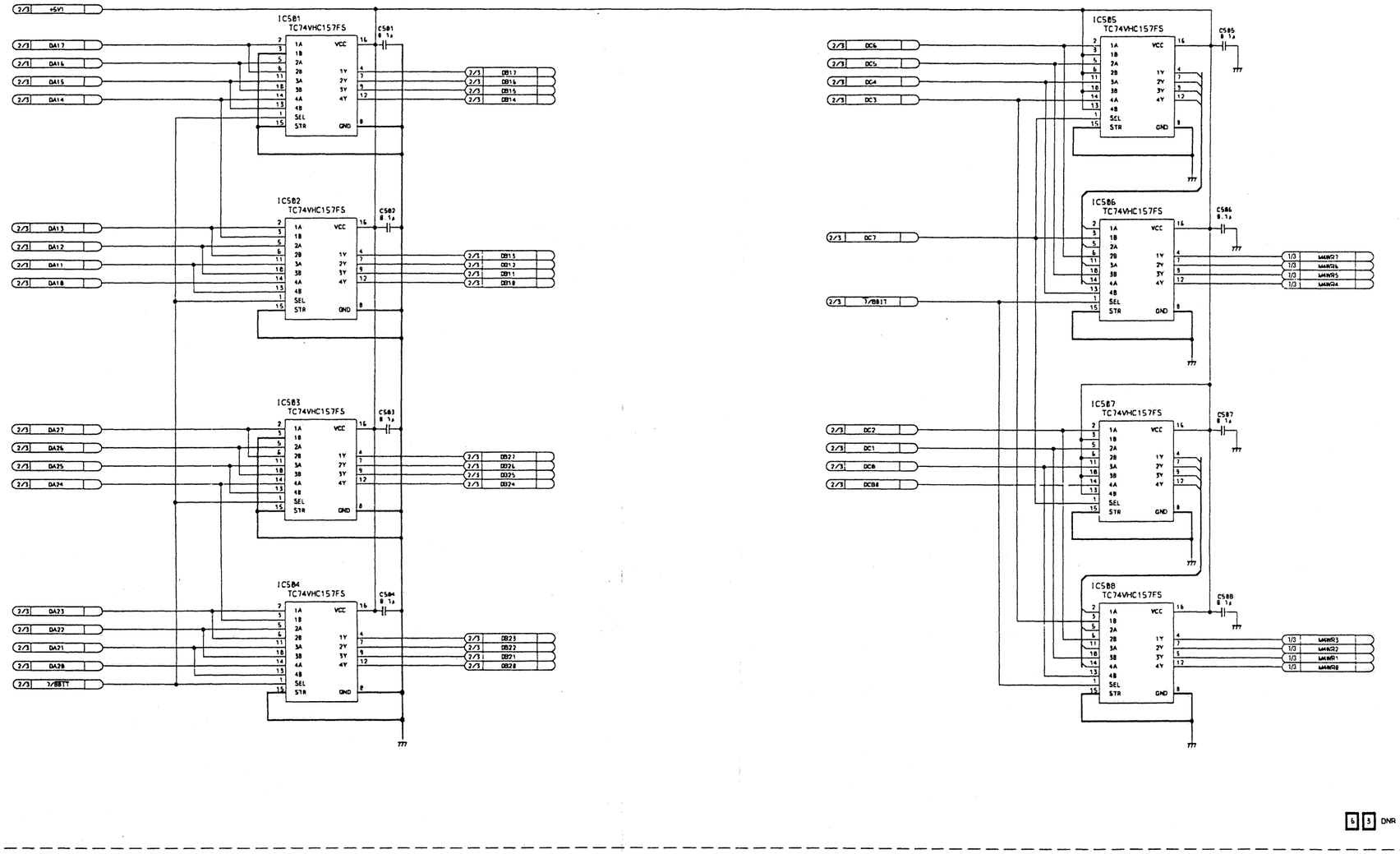
4.46 DNR SCHEMATIC DIAGRAM (BR-S525E)

— DIAGRAM (1/3) —



— DIAGRAM (2/3) —

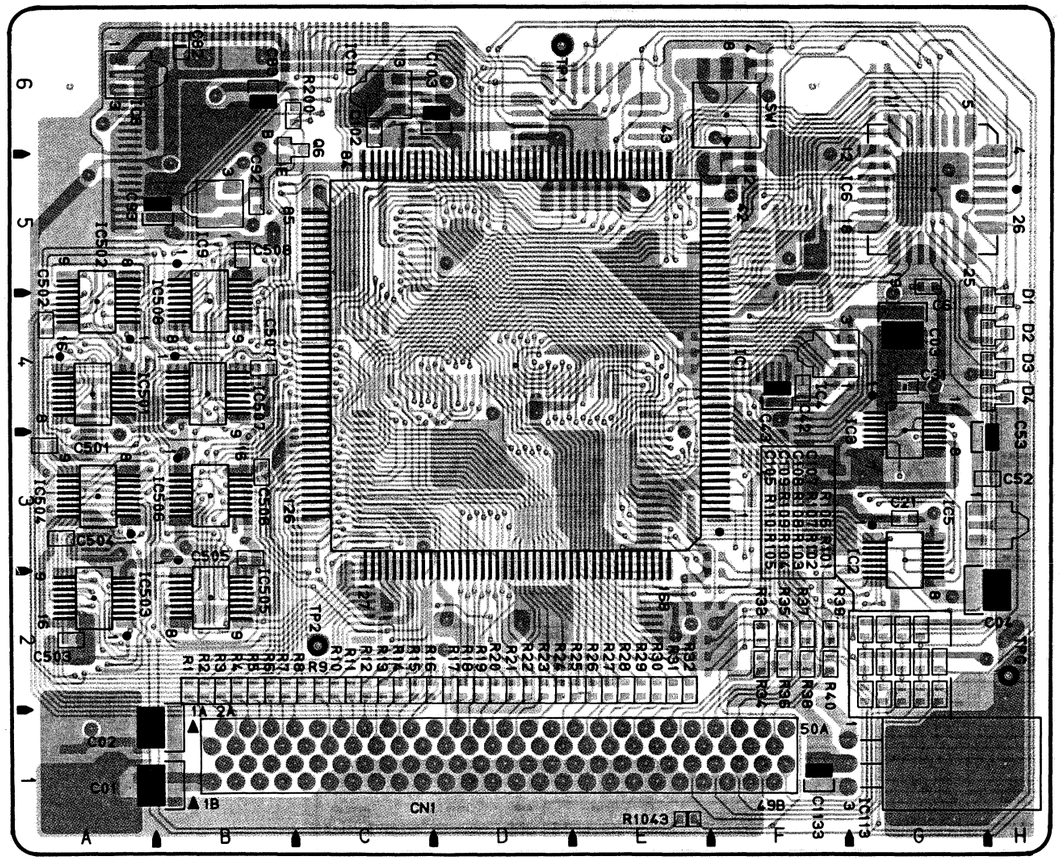

IC113 μPC78M05H
C1133 4.7μ/16
1/3 7.5V
IC101 JCP8814
SEL LIM LEVEL
HOST/SLAVE
HT
LIM
1/3 R CLK2
3/3 +5V1
1/3 CLK2
3/3 D8I0
3/3 D8I1
3/3 D8I2
3/3 D8I3
3/3 D8I4
3/3 D8I5
3/3 D8I6
3/3 D8I7
C1011 0.1μ
IC103 JCP8815
MOTION VECTOR DETECTOR
VARIABLE DELAY
1/3 XRHD
1/3 RVD
1/3 RDY26
1/3 RDY21
1/3 RDY22
1/3 RDY23
1/3 RDY24
1/3 RDY25
1/3 RDY26
1/3 RDY27
1/3 M4RD0
1/3 M4RD1
1/3 M4RD2
1/3 M4RD3
1/3 M4RD4
1/3 M4RD5
1/3 M4RD6
1/3 M4RD7
3/3 DA10
3/3 DA11
3/3 DA12
3/3 DA13
3/3 DA14
3/3 DA15
3/3 DA16
3/3 DA17
3/3 DA20
3/3 DA21
3/3 DA22
3/3 DA23
3/3 DA24
3/3 DA25
3/3 DA26
3/3 DA27
IC110 μPC78L05T
C1103 4.7μ/16
1/3 7.5V
C1031 0.1μ
IC104 CXL-1202Q
K1040
K1041
K1042
K1043
K1044
K1045
K1046
K1047
C1041 0.1μ
IC105 CXK-1202Q
K1050
K1051
K1052
K1053
K1054
K1055
K1056
K1057
C1051 0.1μ
IC106 CXK-1202Q
K1060
K1061
K1062
K1063
K1064
K1065
K1066
K1067
C1061 0.1μ
1/3 X PA
1/3 PA
1/3 R C.K'
1/3 7.5V
IC107 PQ0J30641-B1-B1
C1071 0.1μ
1/3 NRCH
1/3 NRD4
3/3 7/8BIT
3/3 7/8BIT
1/3 NRD2
1/3 RHD
1/3 NRD3
1/3 RVD
TP1
IC108 μPC78L05
IC109 μPC78L05
IC111 μPC78L05
IC112 μPC78L05
C1081 4.7μ/16
C1091 4.7μ/16
C1111 4.7μ/16
C1121 4.7μ/16
6 3 GND


IC581
TC74VHC157FS
C581 0.1μ
2/3 +5V1
2/3 DA17
2/3 DA16
2/3 DA15
2/3 DA14
2/3 DB17
2/3 DB16
2/3 DB15
2/3 DB14
IC582
TC74VHC157FS
C582 0.1μ
2/3 DA13
2/3 DA12
2/3 DA11
2/3 DA10
2/3 DB13
2/3 DB12
2/3 DB11
2/3 DB10
IC583
TC74VHC157FS
C583 0.1μ
2/3 DA27
2/3 DA26
2/3 DA25
2/3 DA24
2/3 DB27
2/3 DB26
2/3 DB25
2/3 DB24
IC584
TC74VHC157FS
C584 0.1μ
2/3 DA23
2/3 DA22
2/3 DA21
2/3 DA20
2/3 7/8BIT
2/3 DB23
2/3 DB22
2/3 DB21
2/3 DB20
IC585
TC74VHC157FS
C585 0.1μ
2/3 DC6
2/3 DC5
2/3 DC4
2/3 DC3
IC586
TC74VHC157FS
C586 0.1μ
2/3 DC7
2/3 7/8BIT
1/3 MAINB7
1/3 MAINB6
1/3 MAINB5
1/3 MAINB4
IC587
TC74VHC157FS
C587 0.1μ
2/3 DC2
2/3 DC1
2/3 DC0
2/3 DCB8
IC588
TC74VHC157FS
C588 0.1μ
1/3 MAINB3
1/3 MAINB2
1/3 MAINB1
1/3 MAINB0
1A
1B
2A
2B
3A
3B
4A
4B
SEL
STR
VCC
GND
1Y
2Y
3Y
4Y
6 3 DNR

4-62

4.47 DNR CIRCUIT BOARD (BR-S525E)

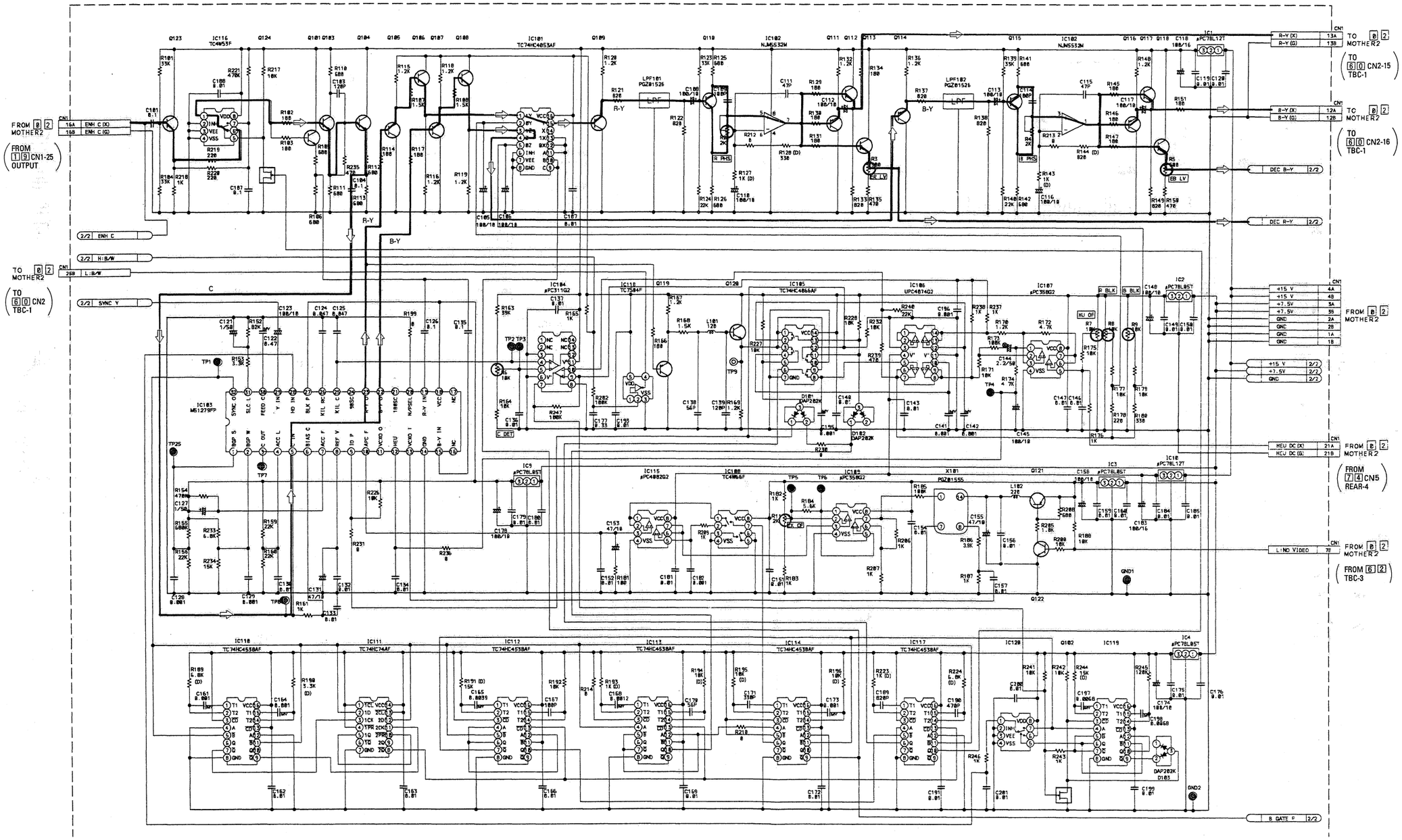
(PARTS SIDE)



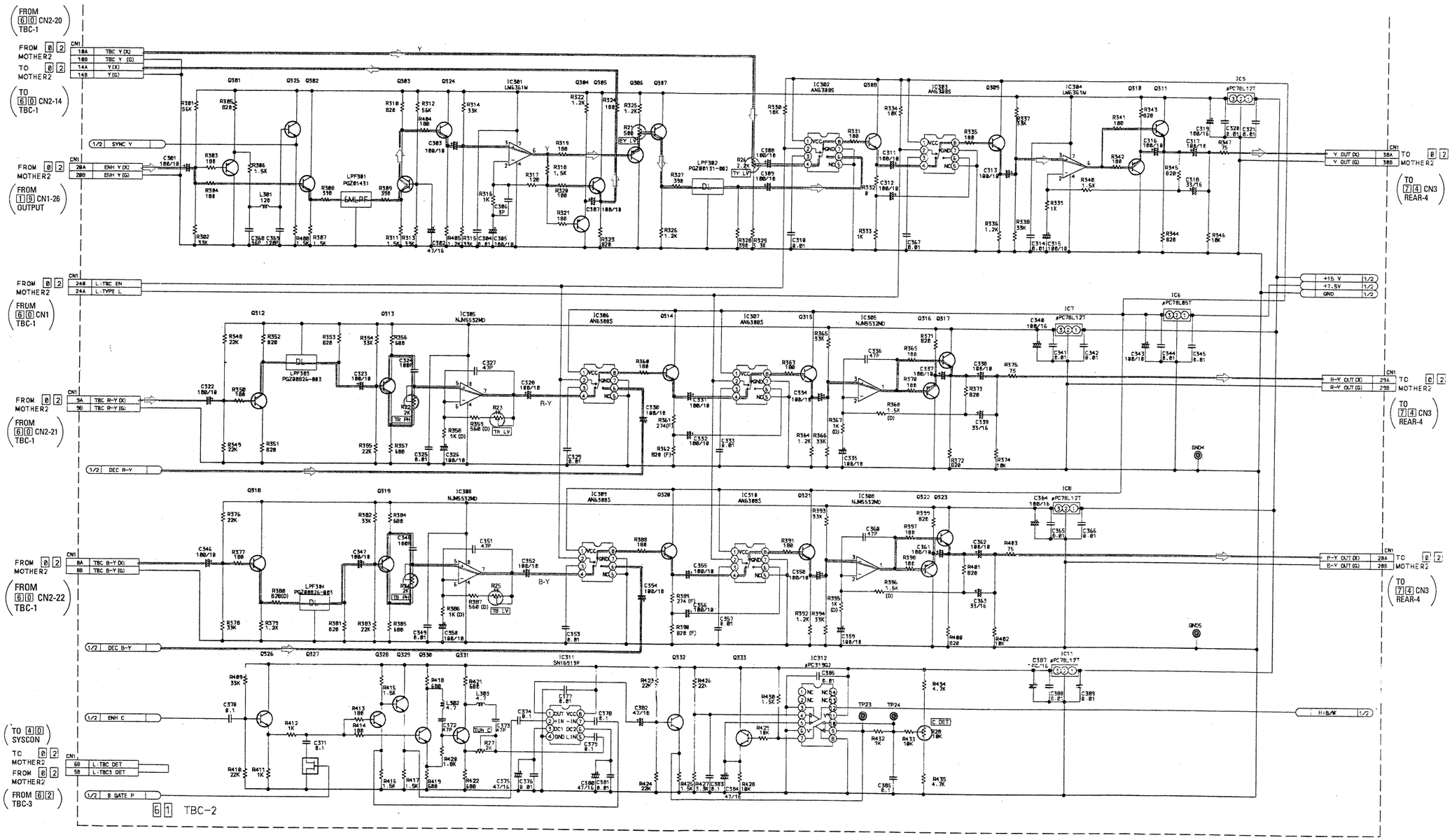
4.48 TBC-2 SCHEMATIC DIAGRAM (BR-S525E)

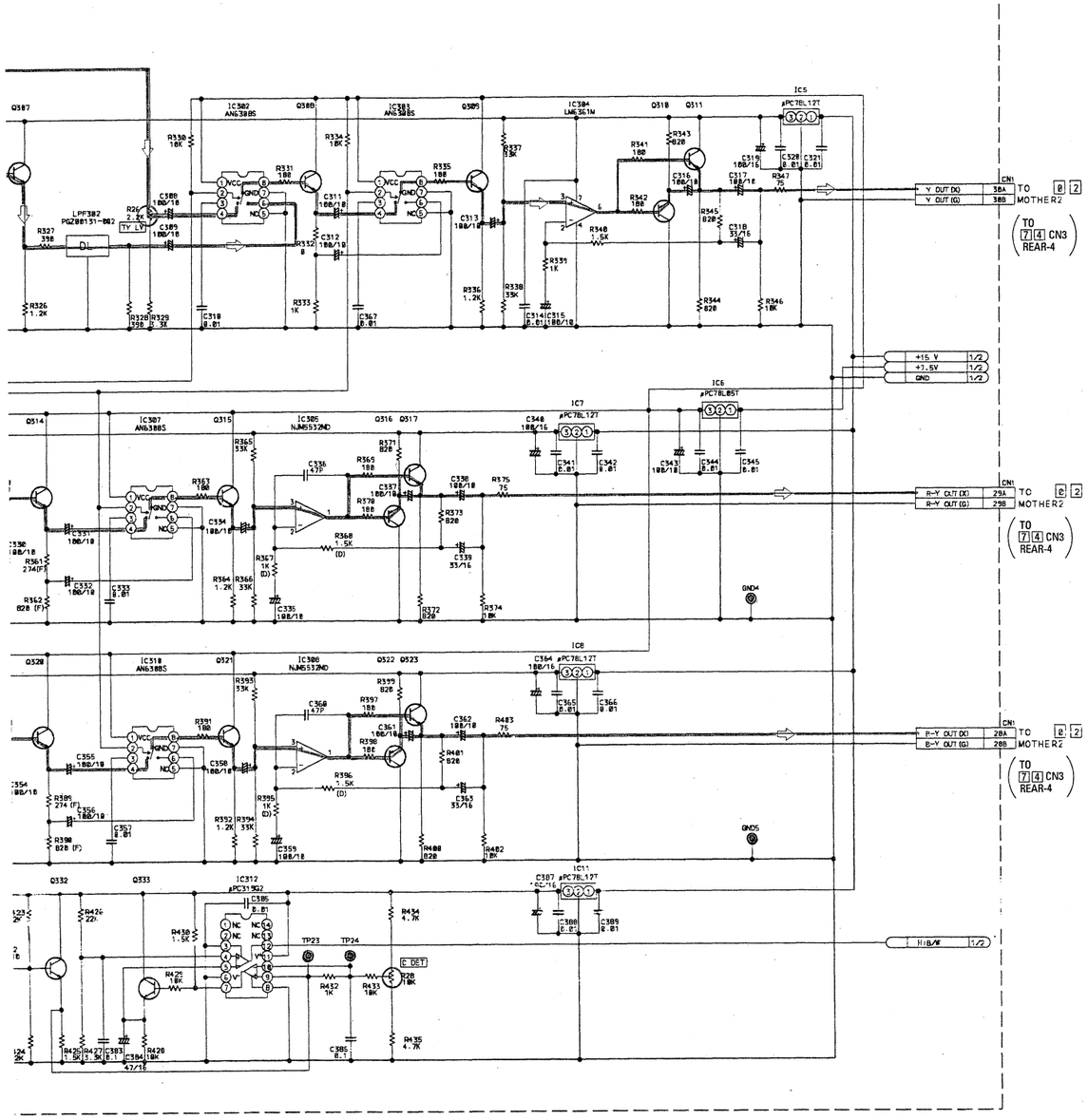
— DIAGRAM (1/2) —

Note: The TBC circuit incorporated in the BR-S525E is different from the TBC circuit (SA-T22E) used in the BR-S822E, BR-S622E and BR-S522E, and they are of course not interchangeable with each other. Therefore, the TBC-1, -2, -3 boards of the BR-S525E cannot be used for the BR-S522E and others. To the contrary, the TBC board (SA-T22E) used in the BR-S522E, etc. is unusable for the BR-S525E.



— DIAGRAM (2/2) —


FROM 60 CN2-20 TBC-1
FROM 02 MOTHER2
TO 02 MOTHER2
TO 60 CN2-14 TBC-1
FROM 02 MOTHER2
FROM 19 CN1-26 OUTPUT
FROM 02 MOTHER2
FROM 60 CN1 TBC-1
FROM 02 MOTHER2
FROM 60 CN2-21 TBC-1
FROM 02 MOTHER2
FROM 60 CN2-22 TBC-1
TO 40 SYSCON
TC 02 MOTHER2
FROM 02 MOTHER2
FROM 62 TBC-3
CN1
1A TBC Y (X)
1B TBC Y (G)
14A Y (X)
14B Y (G)
20A ENH Y (X)
20B ENH Y (G)
24B L.TBC EN
24A L.TYPE L
9A TBC R-Y (X)
9B TBC R-Y (G)
8A TBC B-Y (X)
8B TBC B-Y (G)
6B L.TBC DET
5B L.TBC3 DET
1/2 SYNC Y
1/2 DEC R-Y
1/2 DEC B-Y
1/2 ENH C
1/2 B GATE P
Y
R-Y
B-Y
LPF381 PGZ01431
LPF382 PGZ00131-002
LPF383 PGZ00826-003
LPF384 PGZ00826-003
SML-PF
DL
EV LV
TY LV
TR EV
TR LV
TR PH
TR BA
TUN C
IC301 LMG361M
IC302 AN6388S
IC303 AN6388S
IC304 LMG361M
IC305 NJM5532MD
IC306 AN6388S
IC307 AN6388S
IC308 NJM5532MD
IC309 AN6388S
IC310 AN6388S
IC311 SN16913P
IC312 μPC3152
IC5 μPC78L12T
IC6 μPC78L05T
IC7 μPC78L12T
IC8
IC11 μPC78L12T
Y OUT (X) 38A
Y OUT (G) 38B
R-Y OUT (X) 29A
R-Y OUT (G) 29B
B-Y OUT (X) 28A
B-Y OUT (G) 28B
+15 V 1/2
+7.5V 1/2
GND 1/2
H.BLK 1/2
C DET
TO 02 MOTHER2
TO 74 CN3 REAR-4
TO 60 CN2-20 TBC-1
TO 60 CN2-14 TBC-1
TO 60 CN2-21 TBC-1
TO 60 CN2-22 TBC-1
61 TBC-2



— DC Voltage (1/2) — (TBC-2)

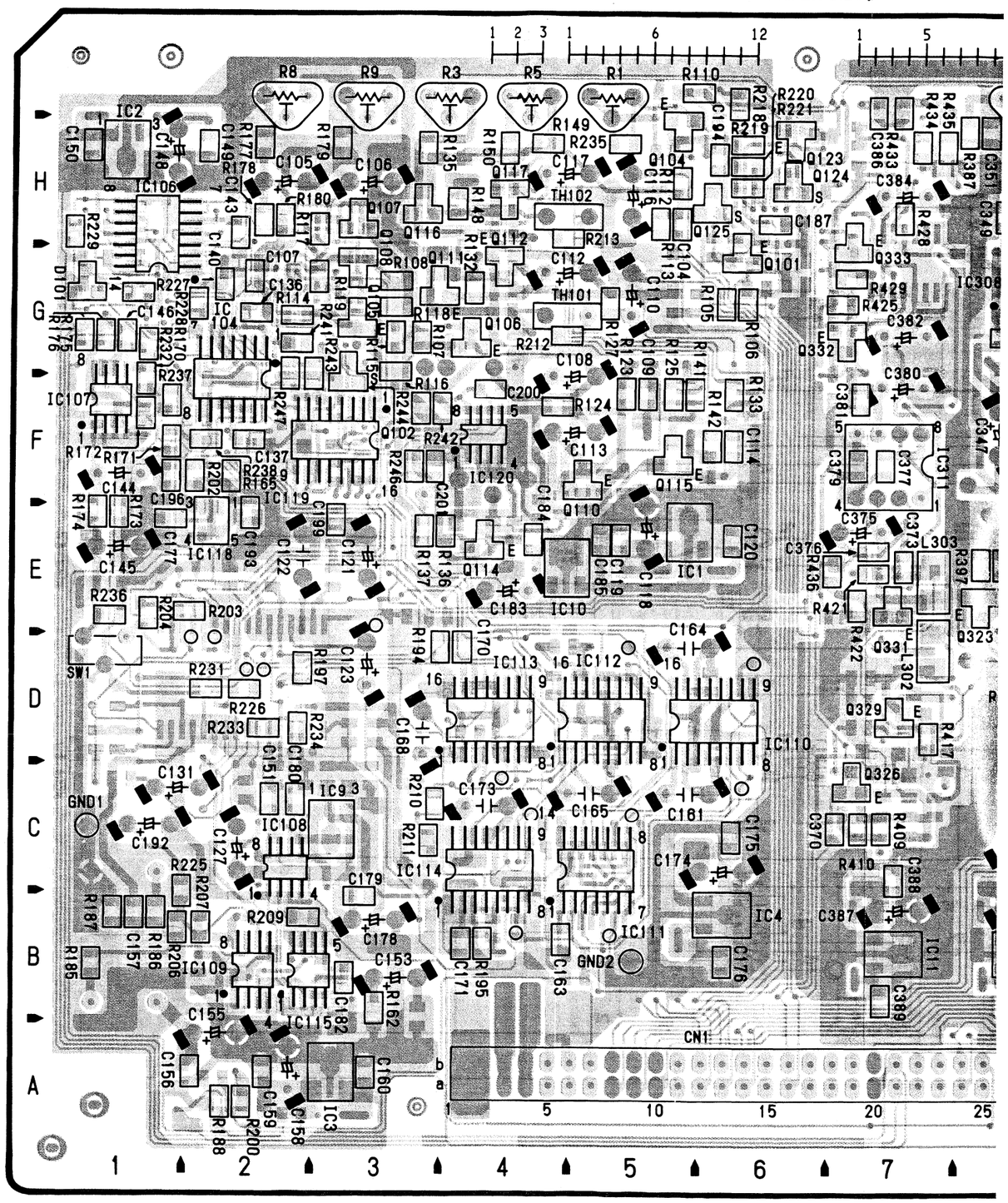
SYMBOL No.		PB	SYMBOL No.		PB	SYMBOL No.		PB	SYMBOL No.		PB	SYMBOL No.		PB	SYMBOL No.		PB
INTEGRATED CIRCUIT			IC103	1	2.9	IC106	1	11.6	IC111	8	5.0	IC115	6	3.2	IC301	4	0.0
IC 1	1	14.7	: 2D	2	3.6	: 1H	2	11.6	: 5C	9	0.1	: 2B	7	3.2	:11G	5	0.0
: 5E	2	0.0		3	2.4		3	0.0		10	5.1		8	12.1		6	6.1
	3	12.2		4	2.6		4	12.1		11	4.9	IC116	1	5.2		7	12.3
IC 2	1	7.9		5	3.0		5	2.2		12	4.3	: 6H	2	0.0		8	0.5
: 1H	2	0.0		6	3.0		6	2.2		13	5.1		3	0.0	IC302	1	5.1
	3	5.1		7	4.3		7	2.2		14	5.1		4	0.0	:12E	2	0.5
IC 3	1	7.9		8	3.1		8	2.3	IC112	1	0.0		5	10.0		3	2.6
: 3A	2	0.0		9	1.2		9	2.3	: 5D	2	3.0		6	5.2		4	2.7
	3	5.1		10	3.1		10	2.3		3	5.1		7	5.2		5	0.0
IC 4	1	7.9		11	2.7		11	0.0		4	3.4		8	12.2		6	2.4
: 6B	2	0.0		12	2.6		12	2.3		5	4.3	IC117	1	0.0		7	0.0
	3	5.1		13	3.4		13	2.3		6	3.4	: 5C	2	5.1		8	2.7
IC 5	1	14.7		14	0.0		14	2.3		7	1.8		3	5.1	IC303	1	5.1
:10B	2	0.0		15	3.0	IC107	1	2.6		8	0.0		4	0.0	:12C	2	3.7
	3	12.3		16	0.0	: 1F	2	2.3		9	5.0		5	0.1		3	2.6
IC 6	1	7.9		17	0.0		3	2.3		10	0.1		6	0.1		4	2.7
: 9B	2	0.0		18	5.1		4	0.0		11	5.1		7	5.1		5	0.0
	3	5.1		19	3.0		5	2.4		12	3.4		8	0.0		6	2.7
IC 7	1	14.7		20	0.0		6	2.4		13	5.0		9	4.9		7	0.0
:10B	2	0.0		21	4.3		7	2.4		14	4.8		10	0.3		8	2.7
	3	12.1		22	2.2		8	5.1		15	0.0		11	4.3	IC304	1	0.6
IC 8	1	14.7		23	2.2	IC108	1	3.1		16	5.1		12	0.0	:12D	2	6.1
: 8B	2	0.0		24	4.3	: 2C	2	3.1	IC113	1	0.0		13	5.0		3	6.1
	3	12.1		25	2.1		3	0.0	: 4D	2	5.0		14	4.8		4	0.0
IC 9	1	7.9		26	2.8		4	0.0		3	5.2		15	0.0		5	0.0
: 3C	2	0.0		27	5.1		5	0.0		4	4.3		16	5.1		6	6.7
	3	5.1		28	1.8		6	0.0		5	5.0	IC118	1	0.0		7	12.3
IC 10	1	14.7		29	3.0		7	0.3		6	0.1	: 2E	2	0.3		8	0.5
: 5E	2	0.0		30	3.0		8	5.1		7	5.0		3	0.0	IC305	1	6.8
	3	12.1		31	2.2	IC109	1	1.6		8	0.0		4	5.1	:10G	2	6.1
IC 11	1	14.7		32	4.2	: 2B	2	3.1		9	5.1		5	5.1		3	6.1
: 7B	2	0.0	IC104	1	0.0		3	3.1		10	0.1	IC119	1	0.0		4	0.0
	3	12.2	: 2F	2	0.0		4	0.0		11	5.1	: 2F	2	5.1		5	3.9
IC101	1	2.2		3	0.0		5	1.6		12	5.0		3	0.0		6	3.9
: 3G	2	2.2		4	2.1		6	1.6		13	5.0		4	1.8		7	3.9
	3	2.2		5	2.1		7	3.1		14	4.8		5	5.1		8	12.1
	4	2.2		6	0.0		8	5.1		15	0.0		6	0.0	IC306	1	5.1
	5	2.2		7	5.1	IC110	1	0.0		16	5.1		7	5.1	:10H	2	0.5
	6	0.0		8	0.0	: 5D	2	4.6	IC114	1	0.0		8	0.0		3	2.6
	7	0.0		9	2.4		3	5.1	: 4C	2	4.6		9	5.1		4	2.7
	8	0.0		10	2.1		4	0.0		3	5.1		10	0.0		5	0.0
	9	4.4		11	12.2		5	4.3		4	5.0		11	0.0		6	2.7
	10	4.4		12	0.0		6	0.5		5	5.1		12	0.0		7	0.0
	11	0.0		13	0.0		7	4.6		6	0.3		13	5.1		8	2.7
	12	0.0		14	0.0		8	0.0		7	4.8		14	5.1	IC307	1	5.1
	13	0.0	IC105	1	2.2		9	4.9		8	0.0		15	0.0	:10F	2	3.7
	14	0.0	: 1G	2	2.3		10	0.2		9	4.4		16	5.1		3	2.6
	15	2.2		3	2.2		11	4.3		10	0.7	IC120	1	1.8		4	2.7
	16	5.1		4	2.4		12	0.0		11	1.8	: 4F	2	0.0		5	0.0
IC102	1	3.9		5	0.6		13	5.1		12	0.0		3	0.0		6	2.7
: 6F	2	3.9		6	0.1		14	4.9		13	5.1		4	0.0		7	0.0
	3	3.9		7	0.0		15	0.0		14	4.3		5	0.0		8	2.7
	4	0.0		8	2.2		16	5.1		15	0.0		6	5.1	IC308	1	6.7
	5	3.9		9	2.2	IC111	1	5.2		16	5.1		7	1.8	: 8G	2	6.1
	6	3.9		10	0.0	: 5C	2	4.3	IC115	1	3.3		8	5.1		3	6.1
	7	3.9		11	0.6		3	4.6	: 2B	2	3.3	IC301	1	0.5		4	0.0
	8	12.2		12	1.2		4	5.1		3	3.1	:11G	2	6.1		5	3.8
				13	0.6		5	5.1		4	0.0		3	6.1		6	3.8
				14	5.1		6	0.0		5	3.0					7	3.8
							7	0.0								8	12.1

— DC Voltage (2/2) — (TBC-2)

SYMBOL No.		PB	SYMBOL No.		PB	SYMBOL No.		PB	SYMBOL No.		PB	SYMBOL No.		PB
IC309	1	5.1	**TRANSISTOR**			Q121	B	4.4	Q317	B	6.7	**CONNECTOR**		
: 9H	2	0.5	Q101	B	5.2	:2A	C	5.1	: 9E	C	12.1	CN1	1AB	0.0
	3	2.6	: 6G	C	12.2		E	5.1		E	6.1		2AB	0.0
	4	2.7		E	4.6	Q122	B	0.7	Q318	B	6.6		3AB	7.9
	5	0.0	Q102	G	5.1	: 2A	C	0.0	: 8D	C	12.1		4AB	14.7
	6	2.7	: 3G	D	0.0		E	0.0		E	5.9		5A	6.1
	7	0.0		S	0.0	Q123	B	5.8	Q319	B	4.5		5 B	0.0
	8	2.7	Q103	B	5.2	: 6H	C	12.2	: 8G	C	8.4		6A	0.1
IC310	1	5.1	: 6H	C	7.8		E	5.2		E	3.8		6 B	0.0
: 9F	2	3.7		E	4.5	Q124	G	0.3	Q320	B	2.7		7A	0.0
	3	2.6	Q104	B	4.5	: 6H	D	10.9	: 9G	C	5.1		7 B	5.1
	4	2.7	: 5H	C	12.2		S	0.0		E	2.1		8A	1.8
	5	0.0		E	3.9	Q301	B	5.1	Q321	B	2.7		8 B	0.0
	6	2.7	Q105	B	2.2	:11C	C	0.0	: 9F	C	5.1		9A	2.0
	7	0.0	: 3G	C	0.0		E	5.8		E	2.0		9 B	0.0
	8	2.7		E	2.8	Q302	B	4.9	Q322	B	6.7		10A	5.2
IC311	1	10.1	Q106	B	2.8	:11D	C	12.3	: 8E	C	0.0		10 B	0.0
: 7F	2	6.1	: 4G	C	5.1		E	4.2		E	7.4		11A	0.0
	3	4.2		E	2.2	Q303	B	4.3	Q323	B	6.7		11 B	0.0
	4	0.0	Q107	B	2.2	:11G	C	10.8	: 8E	C	12.1		12A	3.2
	5	4.1	: 3H	C	0.0		E	3.6		E	6.1		12 B	0.0
	6	6.1		E	2.8	Q304	B	6.1	Q324	B	10.8		13A	3.2
	7	6.1	Q108	B	2.8	:11H	C	0.0	:11G	C	12.3		13 B	0.0
	8	12.2	: 3G	C	5.1		E	6.7		E	10.1		14A	5.4
IC312	1	0.0		E	2.2	Q305	B	6.1	Q325	B	5.8		14 B	0.0
: 7G	2	0.0	Q109	B	2.2	:11H	C	12.3	:11C	C	12.3		15A	0.0
	3	0.0	: 3E	C	0.0		E	5.4		E	5.1		15 B	0.0
	4	1.6		E	2.8	Q306	B	6.1	Q326	B	4.6		16A	6.9
	5	5.2	Q110	B	4.5	:10H	C	0.0	: 7C	C	12.2		16 B	0.0
	6	0.0	: 5F	C	8.4		E	6.8		E	4.0		17A	0.6
	7	0.4		E	3.9	Q307	B	7.8	Q327	G	4.4		17 B	0.0
	8	0.0	Q111	B	3.9	:11H	C	12.3	: 7C	C	0.0		18A	0.0
	9	5.3	: 4G	C	0.0		E	7.2		E	0.0		18 B	0.0
	10	5.3		E	4.5	Q308	B	2.7	Q328	B	3.9		19A	4.7
	11	12.2	Q112	B	3.9	:12F	C	5.1	: 7C	C	8.8		19 B	0.0
	12	0.3	: 4G	C	12.2		E	2.1		E	3.3		20A	3.4
	13	0.0		E	3.2	Q309	B	2.7	Q329	B	8.8		20 B	0.0
	14	0.0	Q113	B	3.9	:12C	C	5.1	: 7D	C	12.2		21A	2.4
			: 3G	C	12.2		E	2.1		E	8.2		21 B	0.0
				E	3.2	Q310	B	6.7	Q330	B	3.9		22A	0.0
			Q114	B	2.2	:12B	C	0.0	: 7D	C	9.0		22 B	0.0
			: 4E	C	0.0		E	7.4		E	3.3		23A	0.0
				E	2.8	Q311	B	6.7	Q331	B	3.3		23 B	0.0
			Q115	B	4.5	:11B	C	12.3	: 7E	C	9.6		24A	3.7
			: 5F	C	8.4		E	6.0		E	2.6		24 B	0.5
				E	3.9	Q312	B	5.7	Q332	B	5.9		25A	0.0
			Q116	B	3.9	:10D	C	9.6	: 7G	C	12.2		25 B	5.1
			: 3H	C	0.0		E	5.0		E	5.3		26A	0.0
				E	4.5	Q313	B	4.5	Q333	B	0.6		26 B	0.0
			Q117	B	3.9	:10G	C	8.3	: 7H	C	12.2		27A	0.0
			: 4H	C	12.2		E	3.9		E	4.5		27 B	0.0
				E	3.2	Q314	B	2.7					28A	0.0
			Q118	B	3.9	:10G	C	5.1					28 B	0.0
			: 3H	C	12.2		E	2.0					29A	0.0
				E	3.2	Q315	B	2.7					29 B	0.0
			Q119	B	2.2	:10F	C	5.1					30A	0.0
			: 2F	C	0.0		E	2.0					30 B	0.0
				E	2.8	Q316	B	6.8					31A	0.0
			Q120	B	2.8	:10E	C	0.0					31 B	0.0
			: 2G	C	5.1		E	7.4						
				E	2.2									

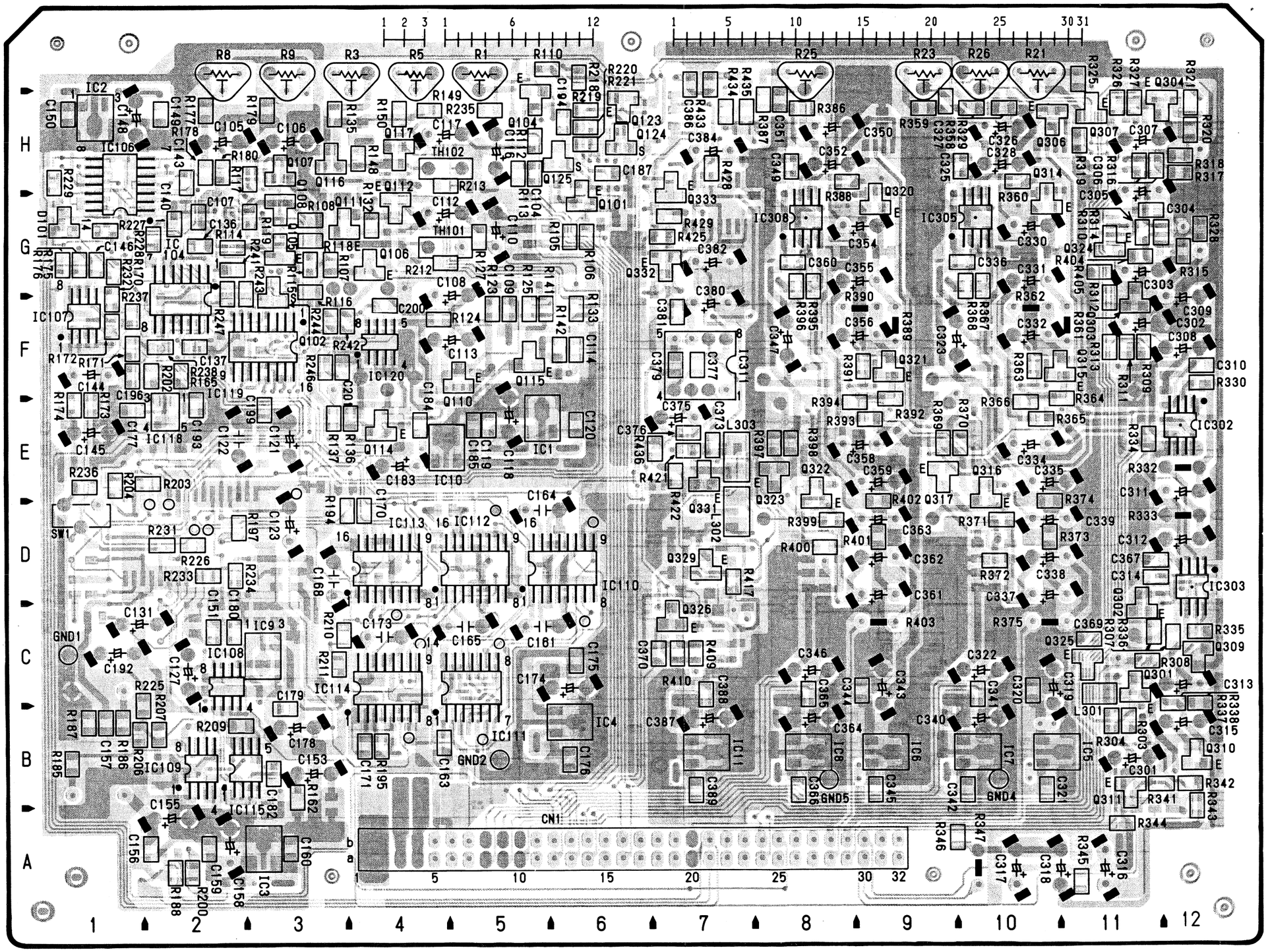
4.49 TBC-2 CIRCUIT BOARD (BR-S525E)

(SOLDER SIDE)

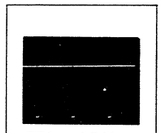


4.49 TBC-2 CIRCUIT BOARD (BR-S525E)

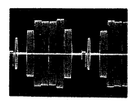
(SOLDER SIDE)



— MAIN WAVEFORMS OF TBC-1 CIRCUIT —



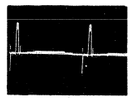
TP1 4.5 Vp-p
(15.625 kHz)



TP7 0.3 Vp-p
TP8 0.2 Vp-p

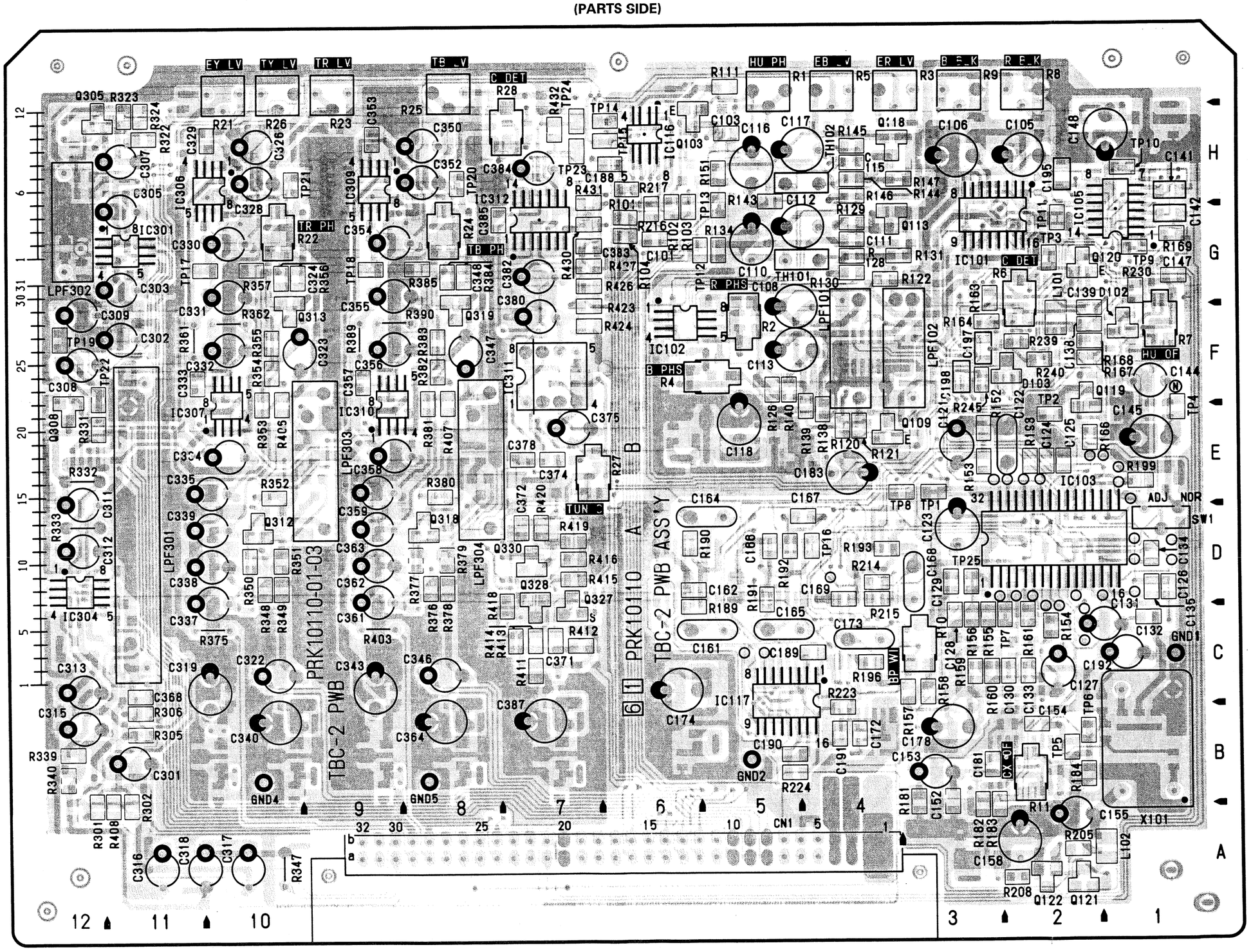


TP9 1.3 Vp-p
TP14 0.6 Vp-p



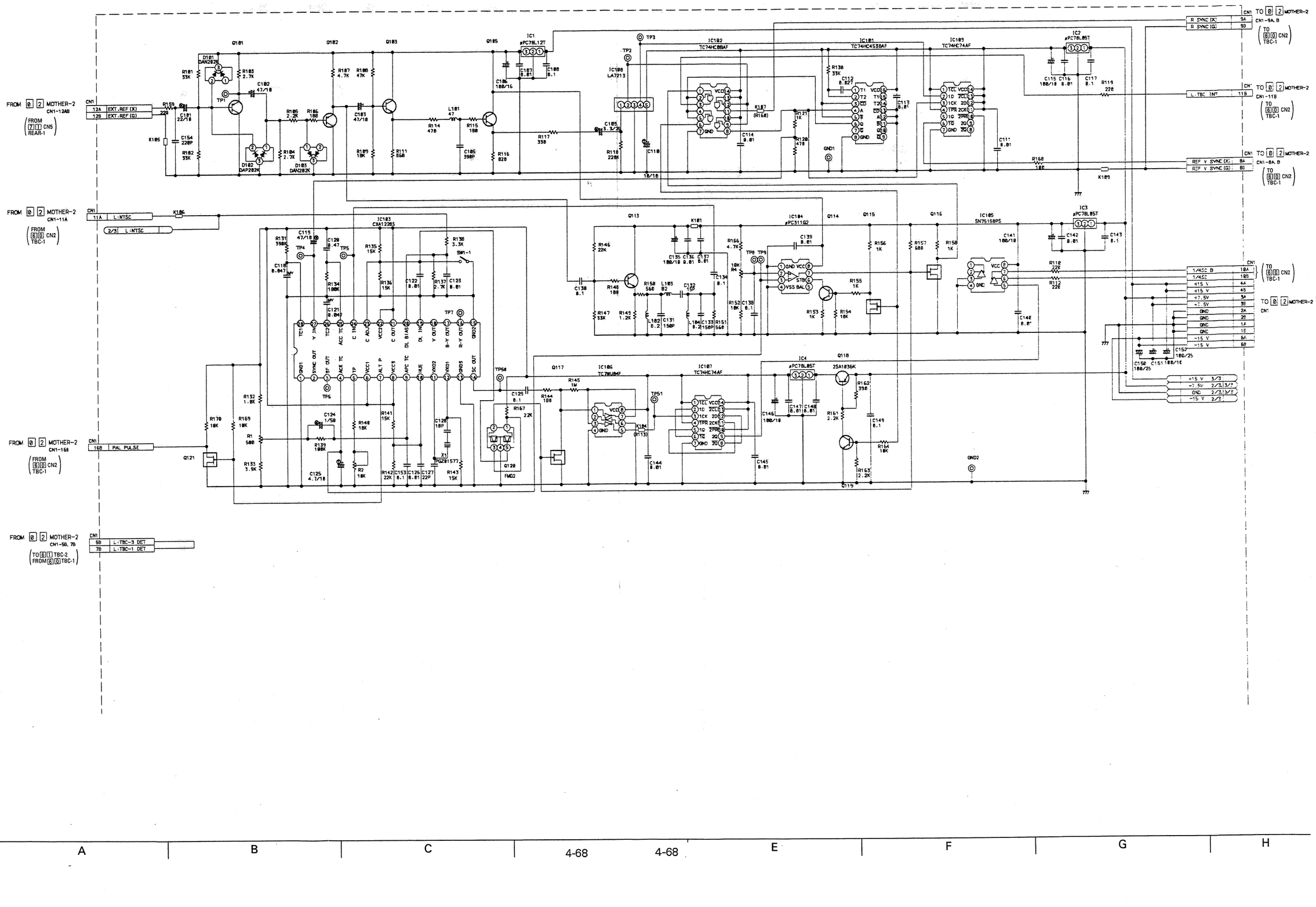
TP23 0.44 Vp-p

(PARTS SIDE)

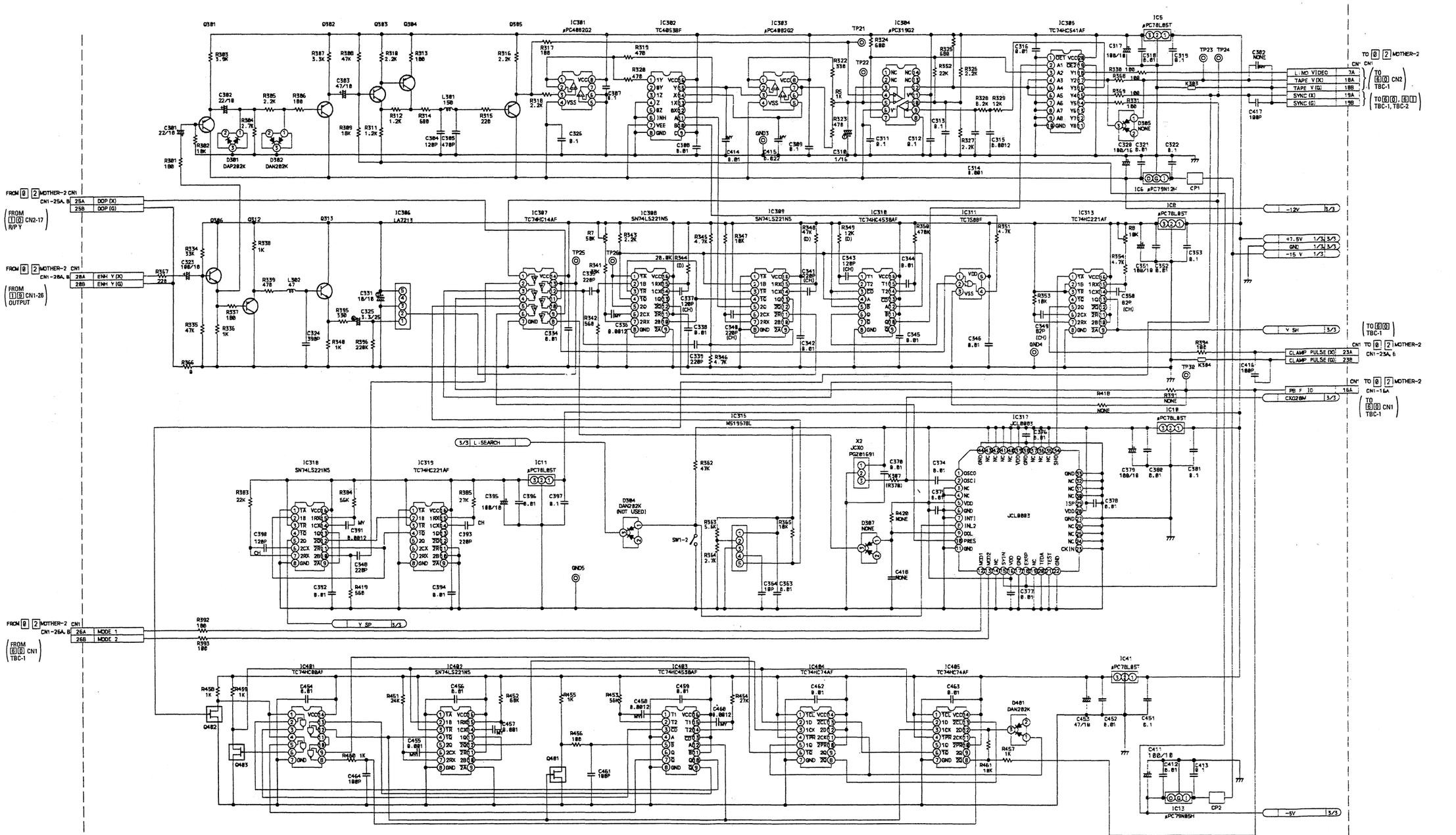

PRK10110-01-03
TBC-2 PWB
PRK10110
TBC-2 PWB ASSY
EY LV
TY LV
TR LV
TB LV
C DET
HU PH
EB LV
ER LV
B E_K
R E_K
TR PH
TB PH
R PHS
B PHS
HU OF
ADJ
NDR
IC101
IC102
IC103
IC117
IC301
IC304
IC306
IC307
IC309
IC310
IC311
IC312
TUN C
CX-OF
LPF301
LPF302
LPF303
LPF304
LPF101
LPF102
TH101
TH102
SW1
X101
CN1
GND1
GND2
GND4
GND5
A
B
C
D
E
F
G
H
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2
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4.50 TBC-3 SCHEMATIC DIAGRAM (BR-S525E)

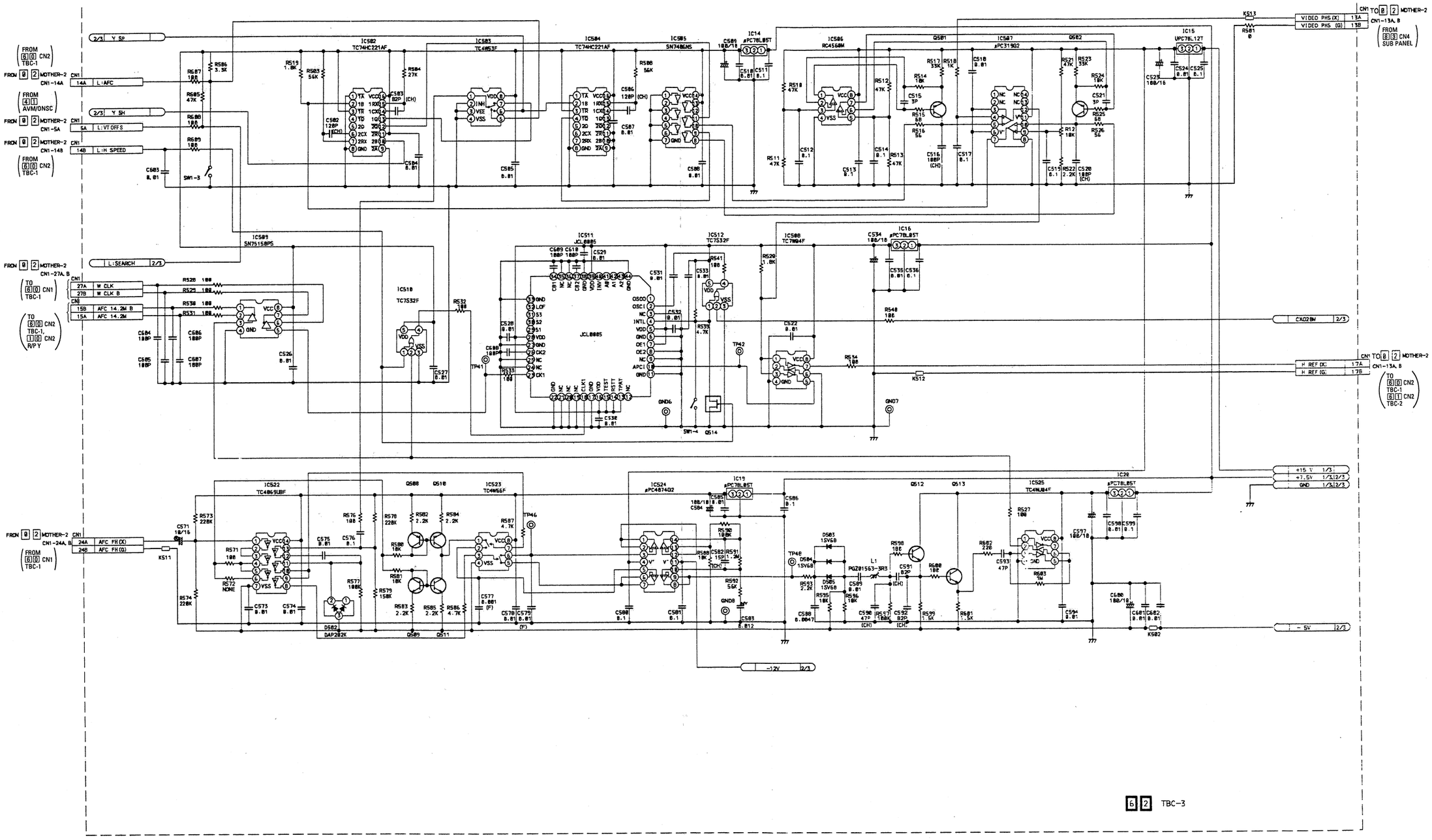
— DIAGRAM (1/3) —



— DIAGRAM (2/3) —


Q581
Q582
Q583
Q584
Q585
IC381 μPC4882G2
IC382 TC4053BF
IC383 μPC4882G2
IC384 μPC3192
IC385 TC74HC541AF
IC5 μPC78L05T
TP21
TP22
TP23
TP24
TO 0 2 MOTHER-2 CN1
TO 6 0 CN2 TBC-1
TO 6 0, 6 1 TBC-1, TBC-2
L: NO. VIDEO 7A
TAPE V (X) 18A
TAPE V (G) 18B
SYNC (X) 19A
SYNC (G) 19B
D381 DAP202K
D382 DAN202K
D385 NONE
IC6 μPC79N12H
CP1
FROM 0 2 MOTHER-2 CN1
CN1-25A, B
25A DOP (X)
25B DOP (G)
FROM 1 0 CN2-17 R/P Y
FROM 0 2 MOTHER-2 CN1
CN1-26A, B
26A ENH Y (X)
26B ENH Y (G)
FROM 1 0 CN1-26 OUTPUT
IC386 LA7213
IC387 TC74HC14AF
IC388 SN74LS221NS
IC389 SN74LS221NS
IC390 TC74HC4538AF
IC391 TC7S08F
IC393 TC74HC221AF
IC8 μPC78L05T
-12V 3/3
+7.5V 1/3, 3/3
GND 1/3, 3/3
-15 V 1/3
Y SH 3/3
TO 6 0 TBC-1
CLAMP PULSE (X) 23A
CLAMP PULSE (G) 23B
TO 0 2 MOTHER-2 CN1-23A, B
PB F ID 16A
CXD2861M 3/3
TO 6 0 CN1 TBC-1
IC9 μPC78L05T
IC315 MS1957BL
IC317 JCL8803
X2 JCXO PG2816J1
X381 (R378)
D384 DAN282K (NOT USED)
D387 NONE
SW1-2
3/3 L. SEARCH
IC318 SN74LS221NS
IC319 TC74HC221AF
IC11 μPC78L05T
GND5
Y SP 3/3
FROM 0 2 MOTHER-2 CN1
CN1-26A, B
26A MODE 1
26B MODE 2
FROM 6 0 CN1 TBC-1
IC481 TC74HC86AF
IC482 SN74LS221NS
IC483 TC74HC4538AF
IC484 TC74HC74AF
IC485 TC74HC74AF
IC41 μPC78L05T
D481 DAN282K
IC13 μPC79N05H
CP2
-5V 3/3

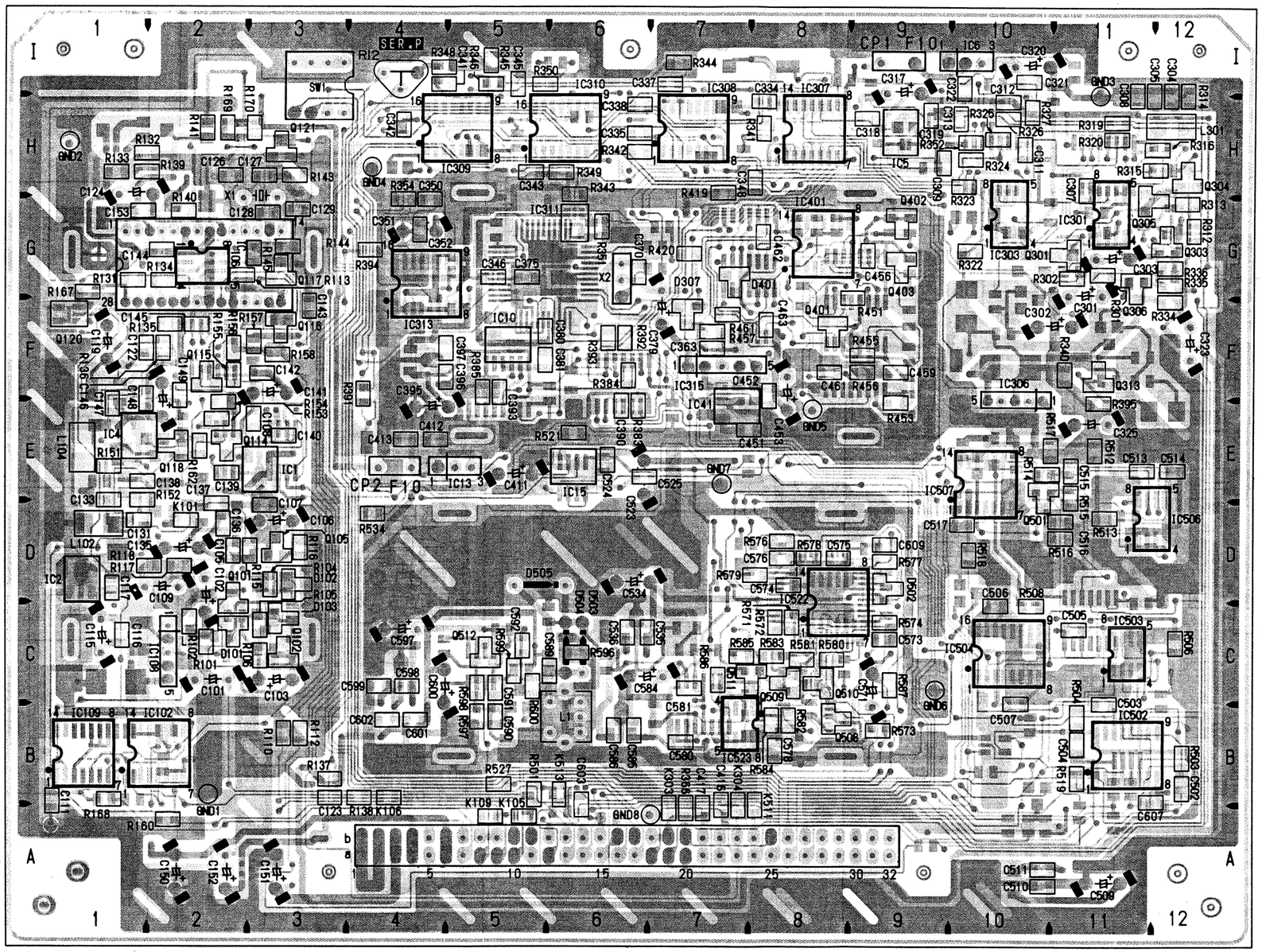
— DIAGRAM (3/3) —



A | B | C | 4-70 | 4-70 | E | F | G | H

4.51 TBC-3 CIRCUIT BOARD (BR-S525E)

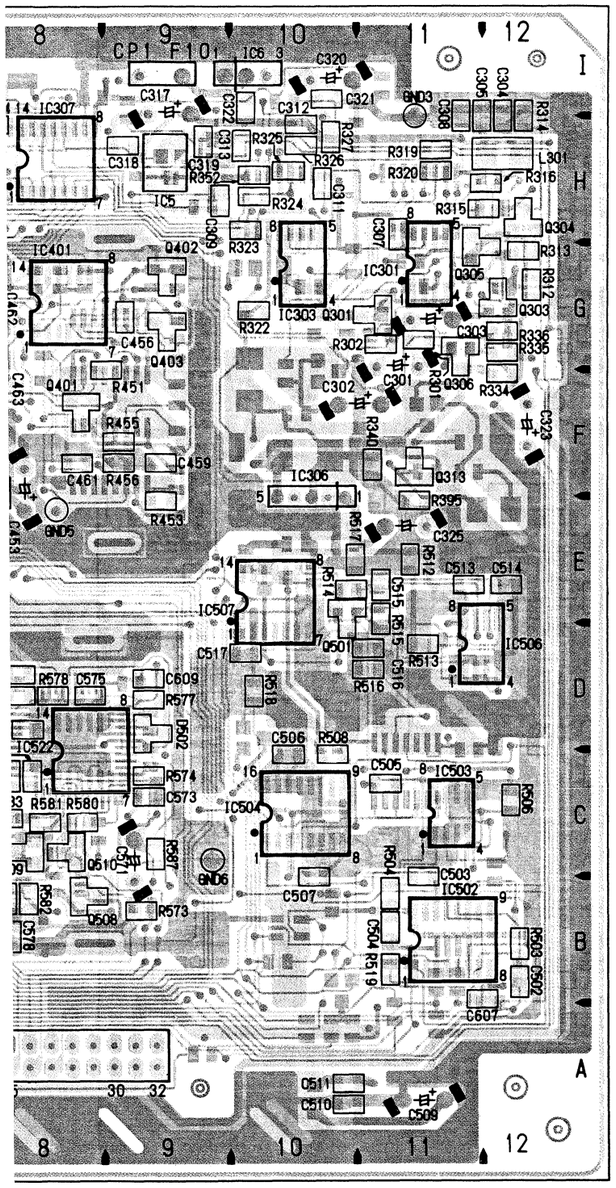
(SOLDER SIDE)



— DC Voltage (1/4) — (TBC 3)

SYMBOL No.		PB	SYMBOL No.		PB
INTEGRATED CIRCUIT			IC101	13	0.0
IC 1	1	14.7	: 1B	14	5.1
: 3E	2	0.0		15	0.0
	3	12.1		16	5.1
IC 2	1	7.9	IC102	1	0.1
: 1D	2	0.0	: 2B	2	0.0
	3	5.1		3	0.0
IC 3	1	7.9		4	0.0
: 3F	2	0.0		5	0.0
	3	5.1		6	0.0
IC 4	1	0.6		7	0.0
: 1E	2	0.0		8	5.1
	3	1.1		9	5.1
IC 5	1	7.9		10	5.1
: 9H	2	0.0		11	5.1
	3	5.1		12	5.1
IC 6	1	0.0		13	5.1
:10I	2	−14.9		14	5.1
	3	−12.2	IC103	1	0.0
IC 8	1	7.9	: 2G	2	0.8
: 4F	2	0.0		3	0.8
	3	5.1		4	0.5
IC 10	1	7.9		5	0.0
: 5F	2	0.0		6	0.9
	3	5.2		7	0.8
IC 11	1	7.9		8	0.8
: 4F	2	0.0		9	0.6
	3	5.1		10	0.6
IC 13	1	0.0		11	0.3
: 5E	2	−14.9		12	0.0
	3	− 5.0		13	0.0
IC 14	1	7.9		14	0.0
:10A	2	0.0		15	0.0
	3	5.1		16	0.5
IC 15	1	14.7		17	0.5
: 6E	2	0.0		18	0.1
	3	12.2		19	0.0
IC 16	1	7.9		20	1.5
: 6C	2	0.0		21	0.8
	3	5.1		22	0.8
IC 19	1	7.9		23	0.4
: 6B	2	0.0		24	0.3
	3	5.1		25	0.0
IC 20	1	7.9		26	0.0
: 4C	2	0.0		27	0.4
	3	5.1		28	0.8
IC 41	1	7.9	IC104	1	0.0
: 7E	2	0.0	: 2E	2	3.5
	3	5.1		3	0.5
IC101	1	0.0		4	0.0
: 1B	2	5.1		5	11.9
	3	5.1		6	9.4
	4	5.0		7	5.1
	5	5.1		8	12.1
	6	0.0			
	7	5.1			
	8	0.0			
	9	5.1			
	10	0.0			
	11	0.0			
	12	0.0			

SOLDER SIDE)



— DC Voltage (1/4) — (TBC 3)

SYMBOL No.		PB
INTEGRATED CIRCUIT		
IC 1	1	14.7
: 3E	2	0.0
	3	12.1
IC 2	1	7.9
: 1D	2	0.0
	3	5.1
IC 3	1	7.9
: 3F	2	0.0
	3	5.1
IC 4	1	0.6
: 1E	2	0.0
	3	1.1
IC 5	1	7.9
: 9H	2	0.0
	3	5.1
IC 6	1	0.0
:10I	2	−14.9
	3	−12.2
IC 8	1	7.9
: 4F	2	0.0
	3	5.1
IC 10	1	7.9
: 5F	2	0.0
	3	5.2
IC 11	1	7.9
: 4F	2	0.0
	3	5.1
IC 13	1	0.0
: 5E	2	−14.9
	3	− 5.0
IC 14	1	7.9
:10A	2	0.0
	3	5.1
IC 15	1	14.7
: 6E	2	0.0
	3	12.2
IC 16	1	7.9
: 6C	2	0.0
	3	5.1
IC 19	1	7.9
: 6B	2	0.0
	3	5.1
IC 20	1	7.9
: 4C	2	0.0
	3	5.1
IC 41	1	7.9
: 7E	2	0.0
	3	5.1
IC101	1	0.0
: 1B	2	5.1
	3	5.1
	4	5.0
	5	5.1
	6	0.0
	7	5.1
	8	0.0
	9	5.1
	10	0.0
	11	0.0
	12	0.0
IC101	13	0.0
: 1B	14	5.1
	15	0.0
	16	5.1
IC102	1	0.1
: 2B	2	0.0
	3	0.0
	4	0.0
	5	0.0
	6	0.0
	7	0.0
	8	0.0
	9	5.1
	10	5.1
	11	5.1
	12	5.1
	13	5.1
	14	5.1
IC103	1	0.0
: 2G	2	0.8
	3	0.8
	4	0.5
	5	0.0
	6	0.9
	7	0.8
	8	0.8
	9	0.6
	10	0.6
	11	0.3
	12	0.0
	13	0.0
	14	0.0
	15	0.0
	16	0.5
	17	0.5
	18	0.1
	19	0.0
	20	1.5
	21	0.8
	22	0.8
	23	0.4
	24	0.3
	25	0.0
	26	0.0
	27	0.4
	28	0.8
IC104	1	0.0
: 2E	2	3.5
	3	0.5
	4	0.0
	5	11.9
	6	9.4
	7	5.1
	8	12.1

— DC Voltage (2/4) — (TBC 3)

SYMBOL No.		PB
IC105	1	4.0
: 3E	2	0.1
	3	0.0
	4	0.0
	5	1.4
	6	3.6
	7	0.1
	8	5.1
IC106	1	0.0
: 2G	2	0.8
	3	0.8
	4	0.0
	5	0.0
	6	0.0
	7	1.1
	8	1.1
IC107	1	0.9
: 2F	2	0.0
	3	0.0
	4	0.9
	5	0.9
	6	0.0
	7	0.0
	8	0.9
	9	1.4
	10	0.9
	11	0.0
	12	0.9
	13	0.9
	14	0.9
IC108	1	2.7
: 2C	2	5.1
	3	0.0
	4	5.1
	5	5.1
IC109	1	5.1
: 1B	2	5.1
	3	5.0
	4	5.1
	5	5.1
	6	0.0
	7	0.0
	8	0.0
	9	5.1
	10	0.0
	11	5.1
	12	5.1
	13	5.1
	14	5.1
IC301	1	− 0.3
:11G	2	− 0.4
	3	− 0.4
	4	−12.2
	5	0.0
	6	0.0
	7	4.6
	8	5.1
IC302	1	− 0.4
:11H	2	− 1.3
	3	0.0
	4	0.0
	5	0.0
	6	0.0
	7	−12.2
	8	0.0
	9	5.1
	10	0.2
	11	0.2
	12	− 0.8
	13	− 0.4
	14	− 0.8
	15	− 1.3
	16	5.1
IC303	1	− 1.2
:10G	2	− 1.3
	3	− 1.3
	4	−12.2
	5	− 0.8
	6	− 0.8
	7	− 0.8
	8	5.1
IC304	1	0.0
:10H	2	0.0
	3	0.0
	4	− 0.4
	5	− 1.0
	6	−12.2
	7	5.0
	8	0.0
	9	3.7
	10	2.7
	11	5.1
	12	4.7
	13	0.0
	14	0.0
IC305	1	0.0
: 8H	2	5.1
	3	5.0
	4	4.7
	5	4.7
	6	4.7
	7	0.0
	8	0.0
	9	5.1
	10	0.0
	11	5.1
	12	4.7
	13	0.0
	14	5.1
	15	4.7
	16	5.1
	17	5.1
	18	5.1
	19	0.0
	20	5.1
IC306	1	3.0
:10E	2	4.5
	3	0.0
	4	5.1
	5	5.1
IC307	1	4.7
: 8H	2	0.4
	3	2.2
	4	2.2
	5	5.2
	6	0.0
	7	0.0
	8	0.0
	9	0.0
	10	0.4
	11	4.5
	12	0.4
	13	4.2
	14	5.1
IC308	1	2.9
: 7H	2	0.2
	3	4.0
	4	5.0
	5	2.9
	6	2.3
	7	− 0.1
	8	0.0
	9	0.0
	10	4.0
	11	5.1
	12	1.8
	13	0.2
	14	5.0
	15	0.7
	16	5.1
IC309	1	0.0
: 5H	2	5.0
	3	5.1
	4	3.6
	5	0.2
	6	5.0
	7	0.8
	8	0.0
	9	2.6
	10	0.6
	11	1.8
	12	4.4
	13	0.6
	14	4.6
	15	0.6
	16	5.1
IC310	1	0.0
: 6H	2	4.7
	3	5.1
	4	5.0
	5	5.1
	6	0.2
	7	5.0
	8	0.0
	9	0.0
	10	5.1
IC310	11	5.1
: 6H	12	5.0
	13	5.1
	14	1.0
	15	0.0
	16	5.1
IC311	1	0.4
: 6G	2	0.2
	3	0.0
	4	0.2
	5	5.1
IC313	1	5.0
: 4G	2	5.1
	3	5.1
	4	5.1
	5	0.1
	6	0.0
	7	5.0
	8	0.0
	9	0.1
	10	5.1
	11	5.1
	12	5.0
	13	0.1
	14	0.0
	15	4.9
	16	5.1
IC315	1	5.2
: 7F	2	1.7
	3	0.0
	4	1.2
	5	5.2
IC317	1	2.4
: 5G	2	2.5
	3	0.0
	4	0.0
	5	5.2
	6	0.0
	7	0.0
	8	5.2
	9	5.1
	10	0.0
	11	0.0
	12	0.1
	13	0.1
	14	0.0
	15	4.7
	16	5.2
	17	0.0
	18	4.7
	19	0.0
	20	0.0
	21	0.0
	22	0.0
	23	0.0
	24	0.0
	25	0.0
	26	0.0
	27	0.0
	28	5.2
	29	0.2
IC317	30	0.0
: 5G	31	0.0
	32	0.0
	33	0.0
	34	5.0
	35	0.0
	36	0.0
	37	0.0
	38	0.0
	39	5.2
	40	0.0
	41	0.0
	42	0.0
	43	0.0
	44	0.0
IC318	1	0.0
: 6F	2	4.9
	3	5.1
	4	1.3
	5	0.2
	6	5.0
	7	0.7
	8	0.0
	9	3.5
	10	0.2
	11	4.9
	12	4.4
	13	3.5
	14	1.7
	15	− 0.6
	16	5.1
IC319	1	0.0
: 5F	2	4.4
	3	5.1
	4	4.9
	5	0.0
	6	0.0
	7	5.1
	8	0.0
	9	0.0
	10	0.0
	11	0.0
	12	0.1
	13	0.3
	14	0.0
IC502	1	0.0
:11B	2	4.5
	3	5.1
	4	4.9
	5	0.7
	6	0.0
	7	3.8
	8	0.0
	9	0.0
	10	0.1
	11	5.1
	12	4.4
	13	0.3
	14	0.0
IC502	15	4.5
:11B	16	5.1
IC503	1	0.2
:11C	2	0.0
	3	0.0
	4	0.0
	5	5.1
	6	0.2
	7	0.3
	8	5.1
IC504	1	0.0
:10C	2	0.2
	3	5.1
	4	4.4
	5	0.0
	6	0.0
	7	5.1
	8	0.0
	9	0.0
	10	0.0
	11	0.0
	12	5.1
	13	0.7
	14	0.0
	15	3.7
	16	5.1
IC505	1	0.0
:11C	2	0.1
	3	0.0
	4	0.1
	5	0.0
	6	0.1
	7	0.0
	8	0.4
	9	4.4
	10	0.4
	11	4.4
	12	0.1
	13	5.1
	14	5.1
IC506	1	5.5
:11D	2	6.1
	3	6.1
	4	0.0
	5	6.1
	6	6.1
	7	5.6
	8	12.2

— DC Voltage (3/4) — (TBC 3)

SYMBOL	No.	PB
IC507 :10E	1	0.0
	2	0.0
	3	0.0
	4	3.5
	5	0.4
	6	0.0
	7	4.5
	8	0.0
	9	1.5
	10	0.4
	11	12.2
	12	4.5
	13	0.0
	14	0.0
IC508 : 6E	1	4.5
	2	5.2
	3	4.5
	4	0.0
	5	0.6
	6	0.0
	7	0.6
	8	5.1
IC509 :11B	1	1.5
	2	1.7
	3	2.5
	4	0.0
	5	2.6
	6	1.7
	7	1.5
	8	5.1
IC510 :10B	1	3.8
	2	2.5
	3	0.0
	4	5.1
	5	5.1
IC511 : 8D	1	2.9
	2	2.7
	3	0.0
	4	0.0
	5	5.1
	6	0.0
	7	5.1
	8	0.0
	9	0.0
	10	0.6
	11	0.0
	12	0.0
	13	5.1
	14	5.2
	15	5.1
	16	5.1
	17	0.0
	18	5.1
	19	0.0
	20	0.0
	21	0.0
	22	0.0
	23	2.5
	24	0.0
	25	0.0
	26	2.5

SYMBOL	No.	PB
IC511 : 8D	27	0.0
	28	5.1
	29	–
	30	–
	31	–
	32	0.0
	33	0.0
	34	5.1
	35	0.0
	36	0.0
	37	5.1
	38	0.0
	39	5.1
	40	–
	41	–
	42	–
	43	–
	44	0.0
IC512 : 8B	1	0.0
	2	2.5
	3	0.0
	4	1.8
	5	5.1
IC522 : 8C	1	– 0.9
	2	0.8
	3	0.9
	4	0.1
	5	0.1
	6	0.1
	7	– 5.0
	8	– 4.7
	9	4.8
	10	4.8
	11	– 4.6
	12	4.2
	13	– 0.9
	14	5.1
IC523 : 7B	1	0.0
	2	0.1
	3	– 4.6
	4	– 5.0
	5	– 1.0
	6	0.3
	7	4.8
	8	5.1
IC524 : 7C	1	0.3
	2	0.3
	3	0.3
	4	12.2
	5	0.1
	6	0.1
	7	0.1
	8	3.0
	9	3.0
	10	3.0
	11	–12.2
	12	0.3
	13	0.3
	14	3.0

SYMBOL	No.	PB
IC525 : 5C	1	0.0
	2	2.4
	3	2.5
	4	0.0
	5	2.5
	6	2.6
	7	5.1
	8	5.1

SYMBOL	No.	PB
TRANSISTOR		
Q101 : 2D	B	6.2
	C	0.0
	E	6.9
Q102 : 3C	B	0.0
	C	0.0
	E	0.1
Q103 : 3C	B	3.2
	C	12.1
	E	2.6
Q105 : 3D	B	2.5
	C	12.1
	E	1.9
Q113 : 2D	B	2.7
	C	5.1
	E	2.0
Q114 : 2E	B	4.2
	C	9.4
	E	3.6
Q115 : 2F	G	0.0
	D	4.7
	S	0.0
Q116 : 3F	G	5.1
	D	0.1
	S	0.0
Q117 : 3G	G	5.1
	D	0.0
	S	0.0
Q118 : 2E	B	7.9
	C	0.6
	E	7.9
Q119 : 2E	B	0.0
	C	7.9
	E	0.0
Q120 : 1F	1C	0.9
	2C	5.1
	3B	0.5
	4E	0.0
	5B	0.8
Q121 : 3H	G	1.0
	D	0.9
	S	0.0
Q301 :11G	B	0.1
	C	–12.1
	E	0.7
Q302 :11G	B	0.0
	C	–12.2
	E	0.6
Q303 :12G	B	– 2.2
	C	4.3
	E	– 2.8
Q304 :12H	B	4.3
	C	– 1.1
	E	5.0
Q305 :11G	B	– 1.0
	C	–12.1
	E	– 0.4
Q306 :11G	B	2.8
	C	5.1
	E	2.1

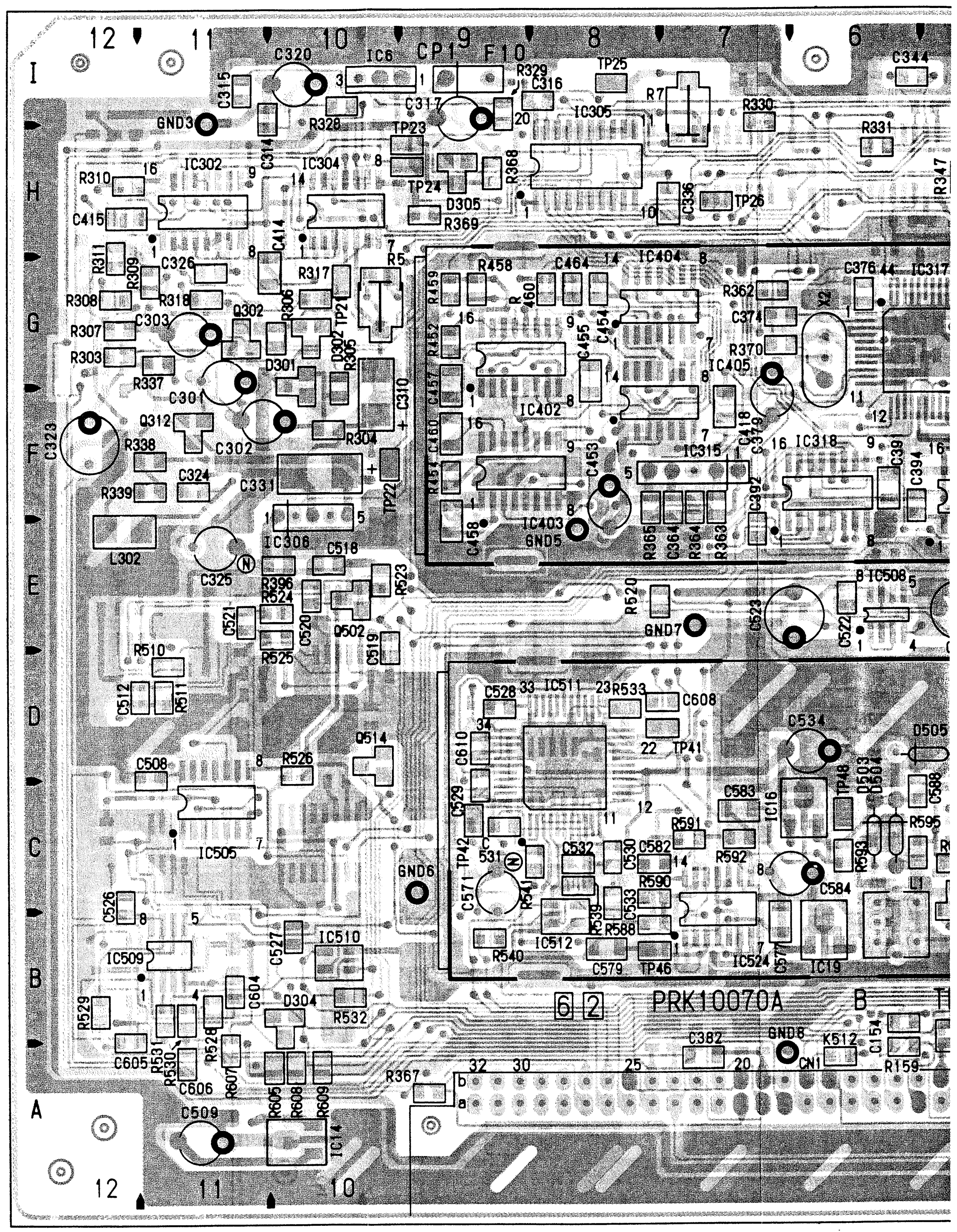
SYMBOL	No.	PB
Q312 :11F	B	2.1
	C	0.0
	E	2.8
Q313 :11F	B	2.8
	C	5.1
	E	2.1
Q401 : 8F	B	1.2
	C	4.2
	E	0.0
Q402 : 9G	B	4.7
	C	0.5
	E	0.0
Q403 : 9G	B	4.8
	C	0.5
	E	0.0
Q501 :10D	B	5.5
	C	0.4
	E	6.1
Q502 :10E	B	5.7
	C	0.1
	E	6.1
Q508 : 8B	B	4.1
	C	4.0
	E	4.4
Q509 : 8C	B	– 3.9
	C	– 3.9
	E	– 4.2
Q510 : 8C	B	4.0
	C	0.0
	E	4.4
Q511 : 8C	B	– 3.8
	C	0.0
	E	– 4.2
Q512 : 5C	B	– 1.2
	C	5.1
	E	– 1.7
Q513 : 5C	B	– 1.5
	C	5.1
	E	– 1.9
Q514 :10D	G	3.8
	D	0.0
	S	0.0

— DC Voltage (4/4) — (TBC 3)

SYMBOL	No.	PB
CONNECTOR		
CN1	1AB	0.0
	2AB	0.0
	3AB	7.9
	4AB	14.7
	5A	6.0
	5 B	0.0
	6AB	–14.9
	7A	5.1
	7 B	0.0
	8A	0.0
	8 B	0.0
	9A	5.1
	9 B	0.0
	10A	1.5
	10 B	2.2
	11A	3.5
	11 B	0.8
	12A	4.3
	12 B	0.0
	13A	3.5
	13 B	0.0
	14A	5.1
	14 B	3.8
	15A	1.7
	15 B	1.5
	16A	2.2
	16 B	0.9
	17A	0.6
	17 B	0.0
	18A	5.1
	18 B	0.0
	19A	4.7
	19 B	0.0
	20A	3.4
	20 B	0.0
	21A	0.0
	21 B	0.0
	22A	4.7
	22 B	0.0
	23A	0.1
	23 B	0.0
	24A	1.9
	24 B	0.0
	25A	0.0
	25 B	0.0
	26A	0.1
	26 B	0.1
	27A	1.6
	27 B	1.5
	28A	0.0
	28 B	0.0
	29A	0.0
	29 B	0.0
	30A	0.0
	30 B	0.0
	31A	0.0
	31 B	0.0
	32A	0.0
	32 B	0.0

(PARTS SIDE)

6
5
4
3
2
1

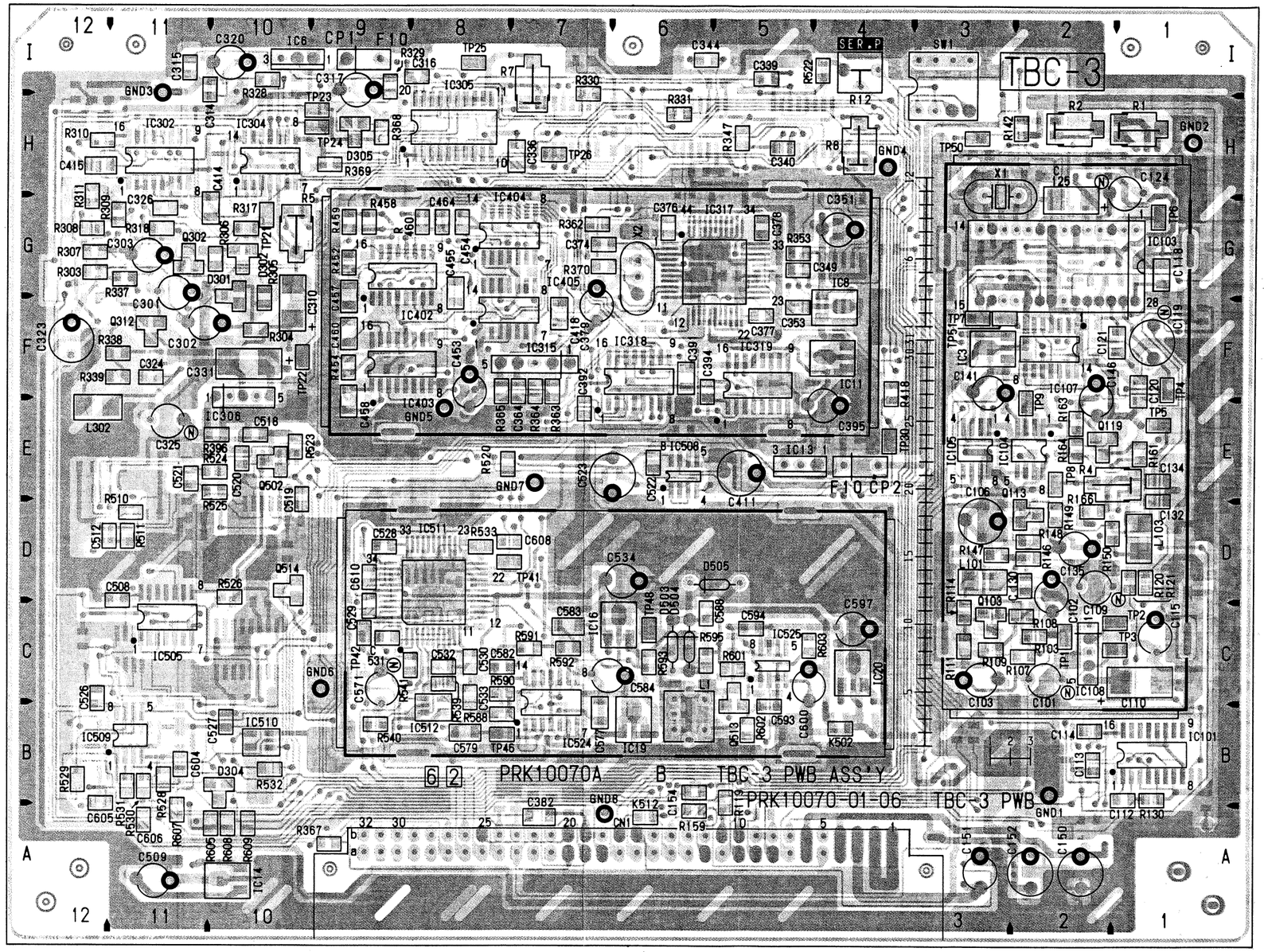


A B

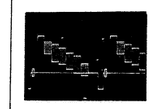
(4/4) — (TBC 3)

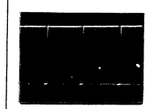
PB
R
0.0
0.0
7.9
14.7
6.0
0.0
−14.9
5.1
0.0
0.0
0.0
5.1
0.0
1.5
2.2
3.5
0.8
4.3
0.0
3.5
0.0
5.1
3.8
1.7
1.5
2.2
0.9
0.6
0.0
5.1
0.0
4.7
0.0
3.4
0.0
0.0
0.0
4.7
0.0
0.1
0.0
1.9
0.0
0.0
0.0
0.1
0.1
1.6
1.5
0.0
0.0
0.0
0.0
0.0
0.0
0.0
0.0
0.0
0.0

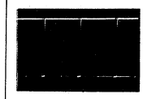
(PARTS SIDE)

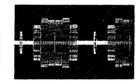


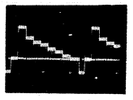
— MAIN WAVEFORMS OF TBC-3 CIRCUIT —

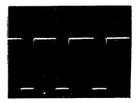

TP1 0.96 Vp-p


TP2 5 Vp-p
TP6 5 Vp-p
TP24 5.1 Vp-p
TP25 5.0 Vp-p
(15.625 kHz)


TP3 5Vp-p
TP4 1.5 Vp-p
(50 Hz)

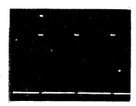

TP5 0.2 Vp-p


TP21 1.6 Vp-p

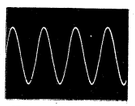

TP26 4.4 Vp-p
(15.625 kHz)


TP30 5 Vp-p
(25 Hz)


TP41 6.0 Vp-p
(14.2 MHz)


TP42 5.2 Vp-p
(15.625 kHz)

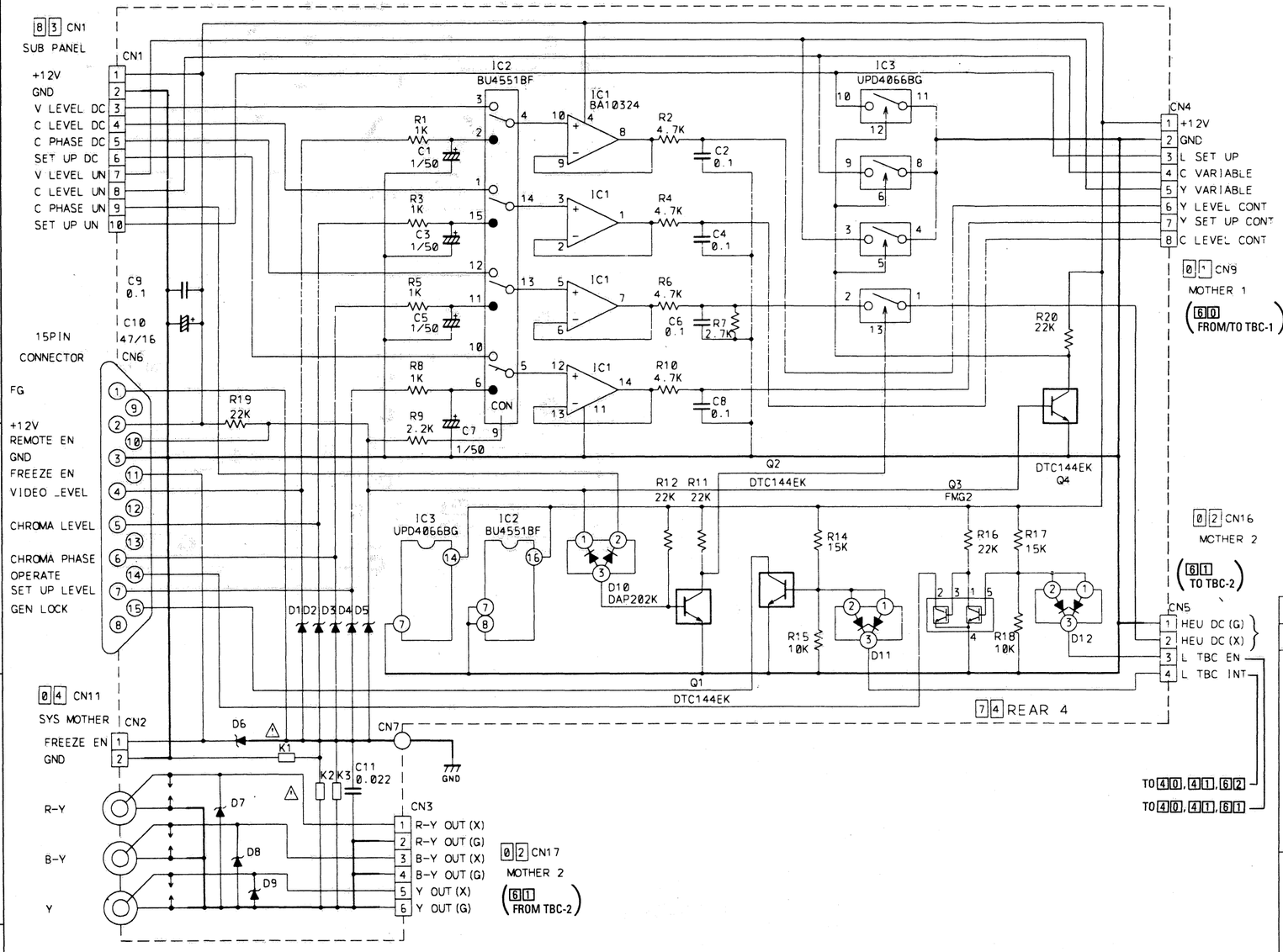

TP51 6.0 Vp-p
(4.43 MHz)


TP50 0.57 Vp-p
(4.43 MHz)

Note:
Waveforms observed at TP1—TP7, TP50 TP51 are those of color bar signal input to the EXT. REF terminal.
(Set the 75-ohm terminating switch to ON)

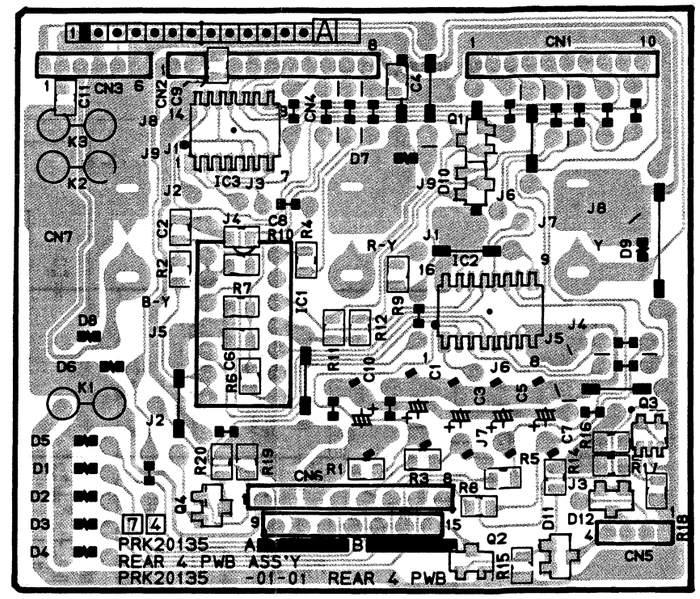
4.52 REAR-4 SCHEMATIC DIAGRAM & CIRCUIT BOARD (BR-S525E)

— SCHEMATIC —



— CIRCUIT BOARD —

(SOLDER SIDE)



— DC Voltage — (REAR-4)

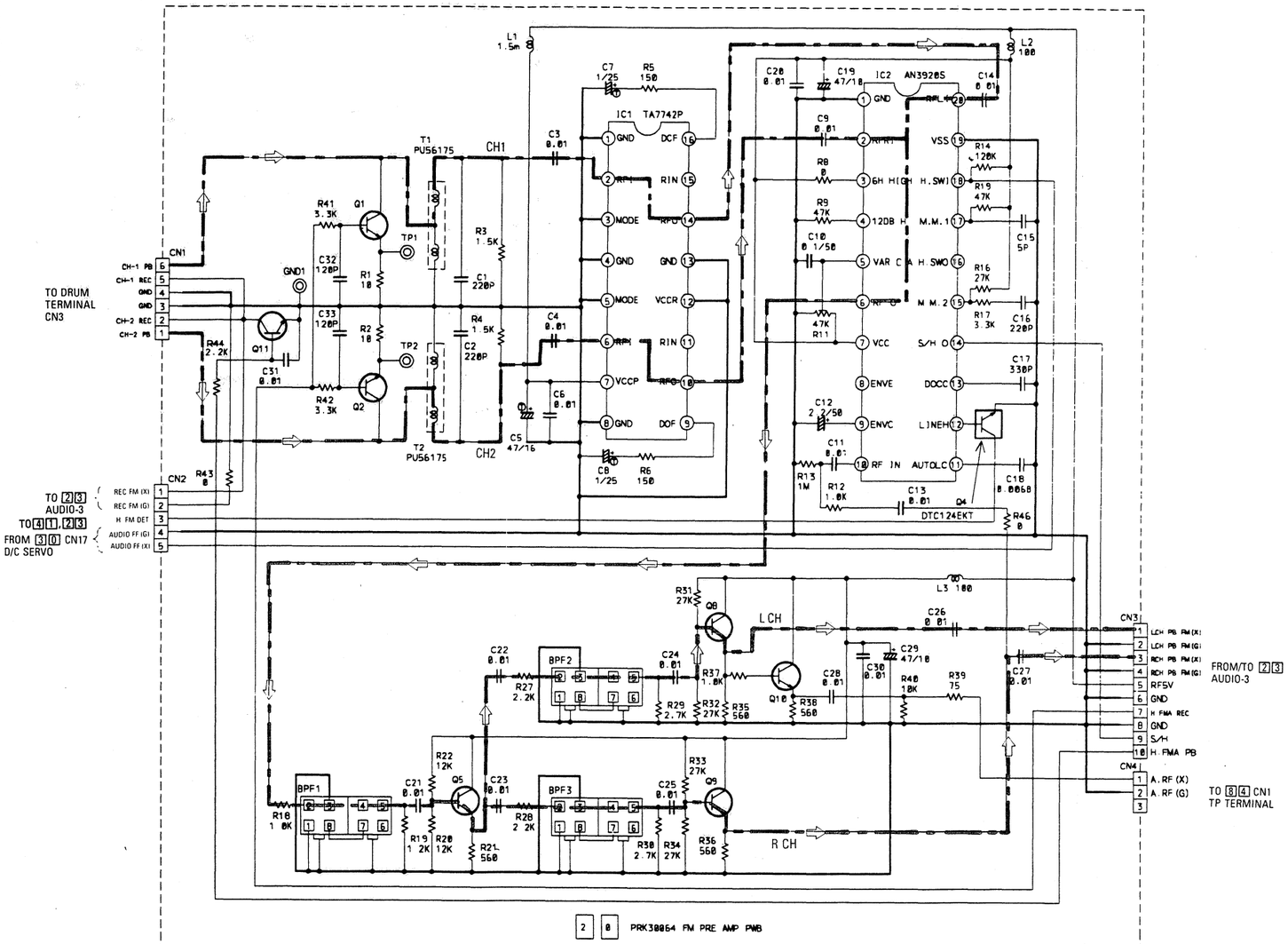
SYMBOL No.		PB
IC		
IC1	1	9.7
	2	9.7
	3	9.7
	4	0.0
	5	4.9
	6	4.9
	7	4.9
	8	2.6
	9	2.6
	10	2.6
	11	12.0
	12	5.1
	13	5.1
	14	5.1
IC2	1	2.6
	2	0.2
	3	9.7
	4	9.7
	5	4.9
	6	0.2
	7	0.0
	8	0.0
	9	12.0
	10	4.9
	11	0.1
	12	5.1
	13	5.1
	14	2.6
	15	0.2
	16	12.0
IC3	1	2.2
	2	1.9
	3	11.9
	4	11.9
	5	12.0
	6	12.0
	7	0.0
	8	11.8
	9	11.8
	10	12.4
	11	12.4
	12	12.0
	13	0.0
	14	11.9
TRANSISTOR		
Q1	B	0.0
	C	8.2
	E	8.1
Q2	B	0.7
	C	0.0
	E	0.0
Q3	1	8.0
	2	0.0
	3	8.0
	4	0.0
	5	1.0

SYMBOL No.		PB
CONNECTOR		
CN1	1	12.0
	2	0.0
	3	9.7
	4	2.6
	5	5.1
	6	4.9
	7	11.9
	8	11.8
	9	7.9
	10	12.4
CN2	1	5.0
	2	0.0
CN3	1	0.0
	2	0.0
	3	0.0
	4	0.0
	5	0.0
	6	0.0
CN4	1	12.0
	2	0.0
	3	12.4
	4	11.8
	5	12.0
	6	9.7
	7	4.9
	8	2.6

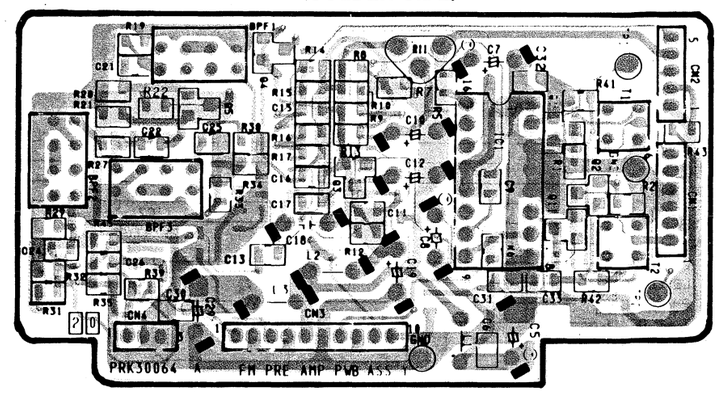
SYMBOL No.		PB
CN5	1	0.0
	2	2.2
	3	0.5
	4	0.1
CN6	1	0.3
	2	12.0
	3	0.0
	4	0.2
	5	0.2
	6	0.1
	7	0.2
	8	0.2
	9	0.2
	10	12.0
	11	5.0
	12	0.0
	13	0.0
	14	0.0
	15	0.0

4.53 FM AUDIO PRE/REC AMP SCHEMATIC DIAGRAM & CIRCUIT BOARD

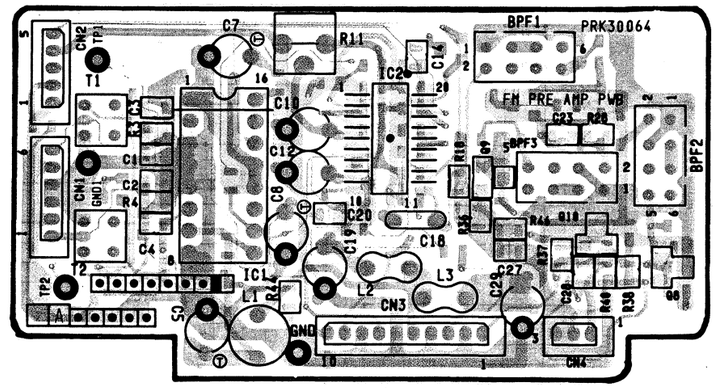
— SCHEMATIC —



— CIRCUIT BOARD — (SOLDER SIDE)



(PARTS SIDE)



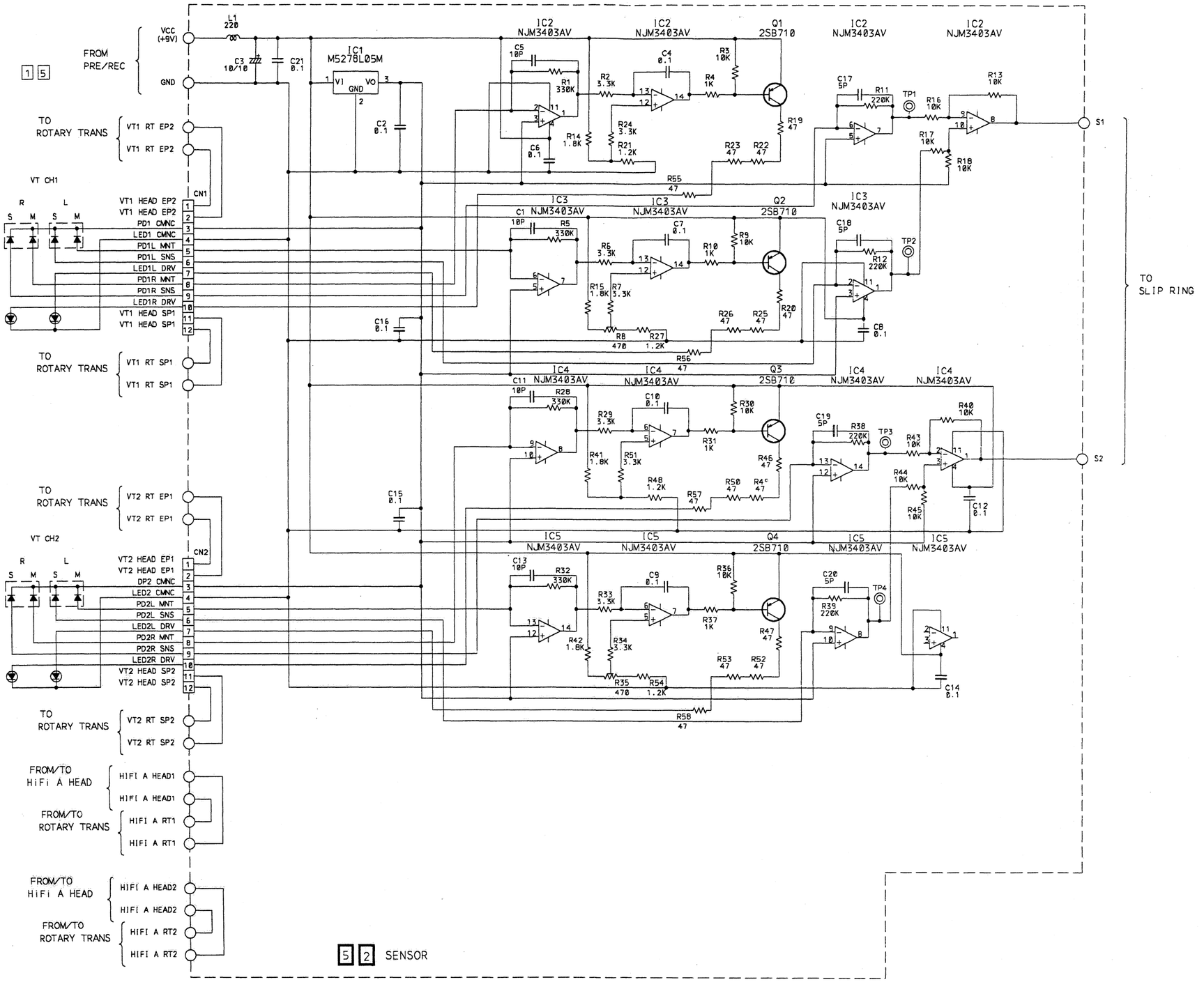
— DC Voltage —

SYMBOL No.		PB
IC		
IC1	1	0.0
	2	0.7
	3	0.0
	4	0.0
	5	0.0
	6	0.7
	7	4.7
	8	0.0
	9	1.0
	10	2.5
	11	0.0
	12	0.0
	13	0.0
	14	2.5
	15	0.0
	16	1.0
IC2	1	0.0
	2	2.9
	3	4.8
	4	0.0
	5	2.8
	6	1.6
	7	4.8
	8	3.1
	9	3.1
	10	3.4
	11	2.5
	12	0.0
	13	3.3
	14	0.0
	15	0.1
	16	2.4
	17	0.0
	18	2.6
	19	0.0
	20	2.9

SYMBOL No.		PB
TRANSISTOR		
Q1	B	-0.1
	C	0.0
	E	0.0
Q2	B	0.0
	C	0.0
	E	0.0
Q4	B	0.0
	C	5.0
	E	0.0
Q5	B	2.4
	C	4.8
	E	1.7
Q8	B	2.3
	C	4.8
	E	1.7
Q9	B	2.3
	C	4.8
	E	1.7
Q10	B	1.7
	C	4.8
	E	1.1
Q11	B	0.8
	C	0.0
	E	0.0
CONNECTOR		
CN1	1	0.0
	2	0.0
	3	0.0
	4	0.0
	5	0.0
	6	0.0
CN2	1	0.0
	2	0.0
	3	5.0
	4	0.0
	5	2.6
CN3	1	0.0
	2	0.0
	3	0.0
	4	0.0
	5	4.8
	6	0.0
	7	0.0
	8	0.0
	9	0.0
	10	11.9
CN4	1	0.0
	2	0.0
	3	0.0

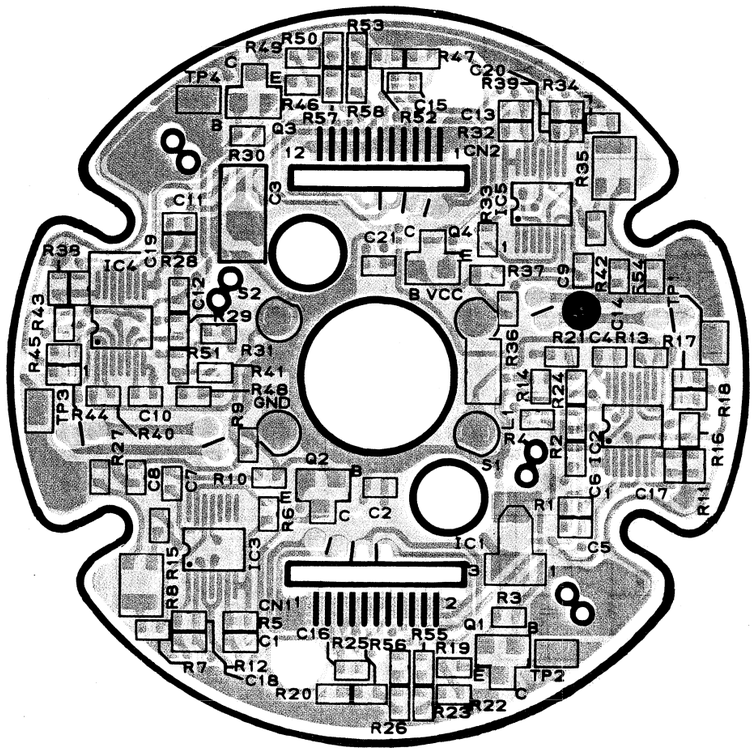
4.54 SENSOR SCHEMATIC DIAGRAM (BR-S525E)

(When something is wrong with this circuit, replace it with a new assembly part because this circuit is beyond repair service.)

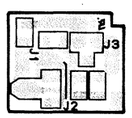


4.55 SENSOR CIRCUIT BOARD (BR-S525E)

— SENSOR —

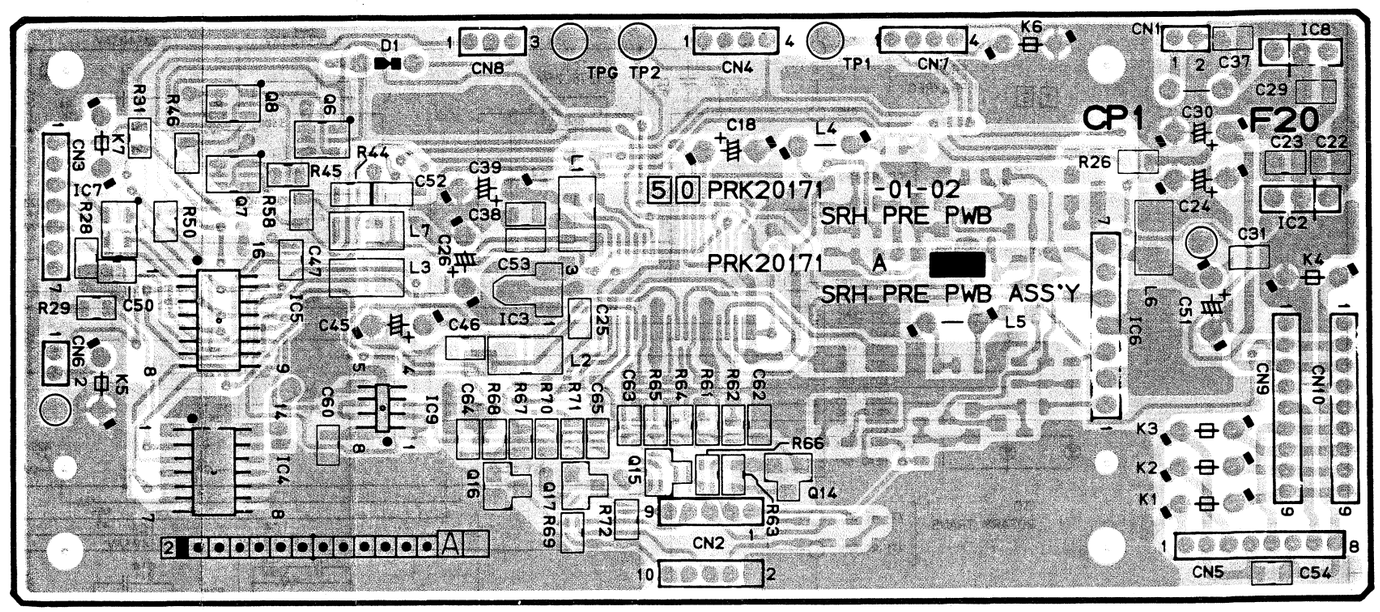


— POWER SW —

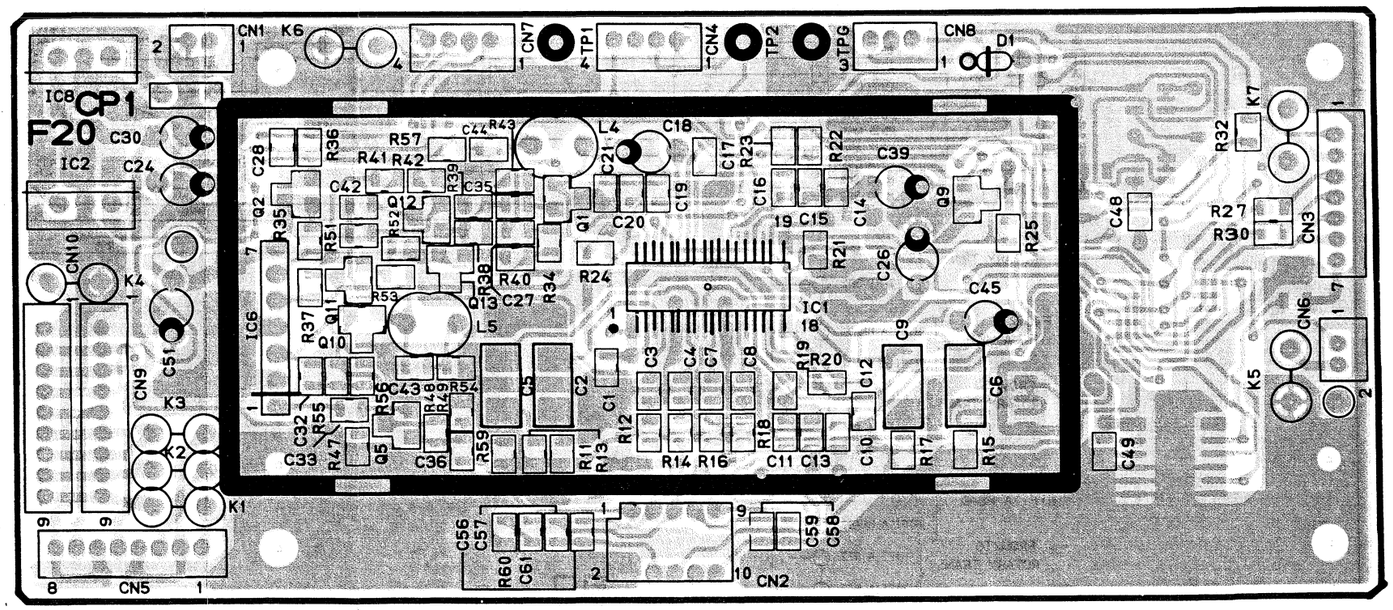


4.56 SEARCH PRE CIRCUIT BOARD (BR-S525E)

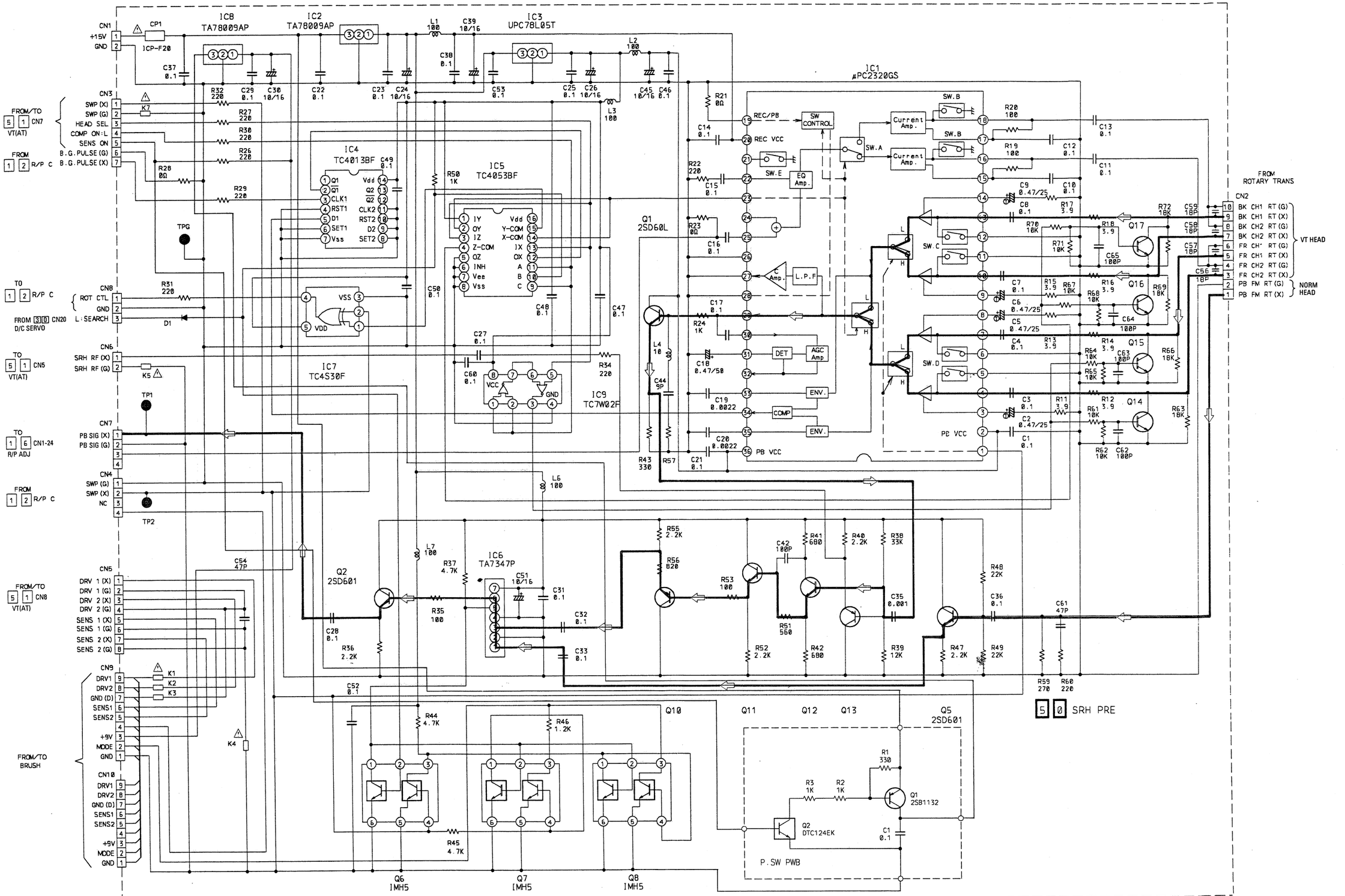
(SOLDER SIDE)



(PART SIDE)

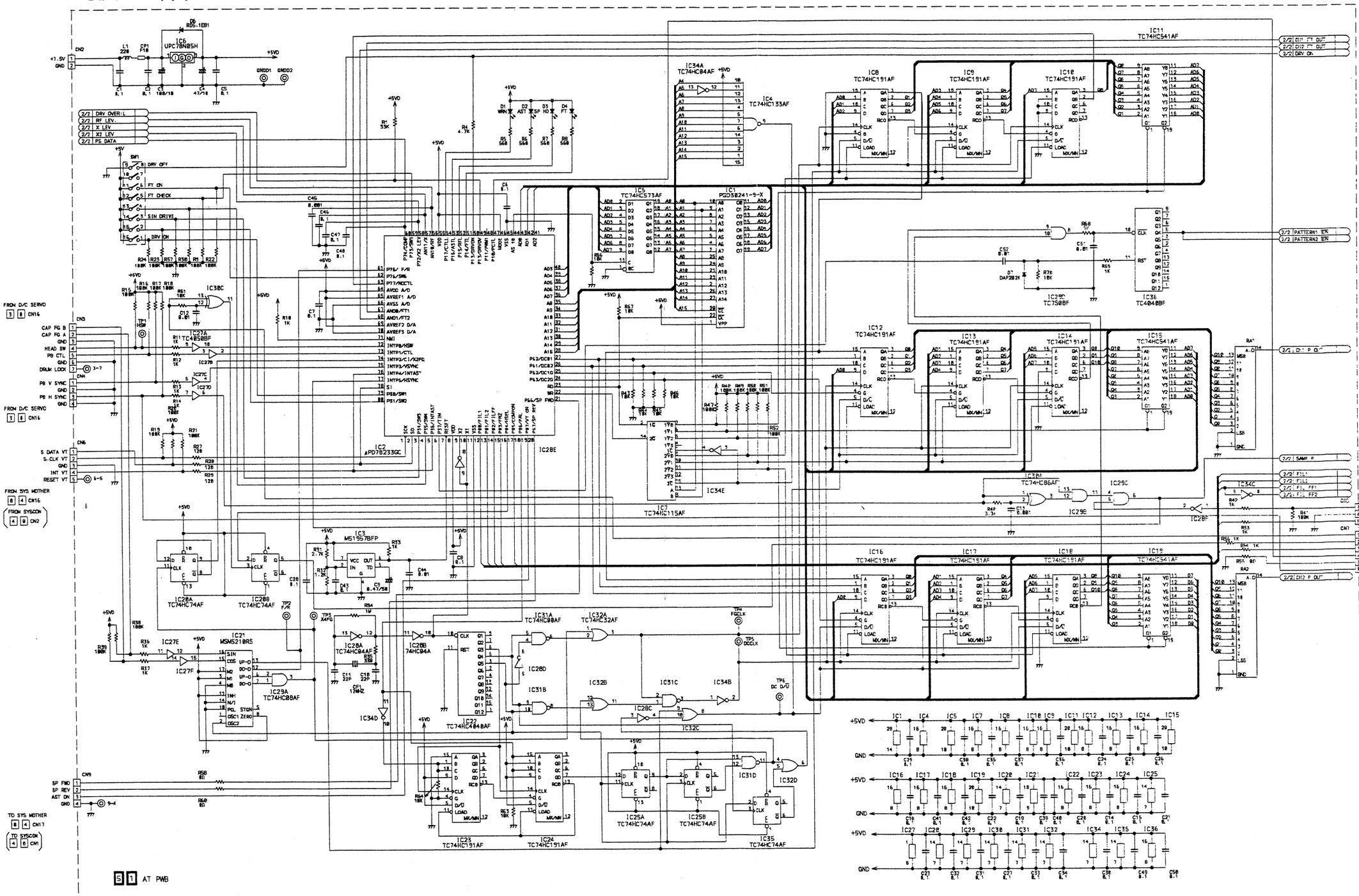


4.57 SEARCH PRE AMP SCHEMATIC DIAGRAM (BR-S525E)

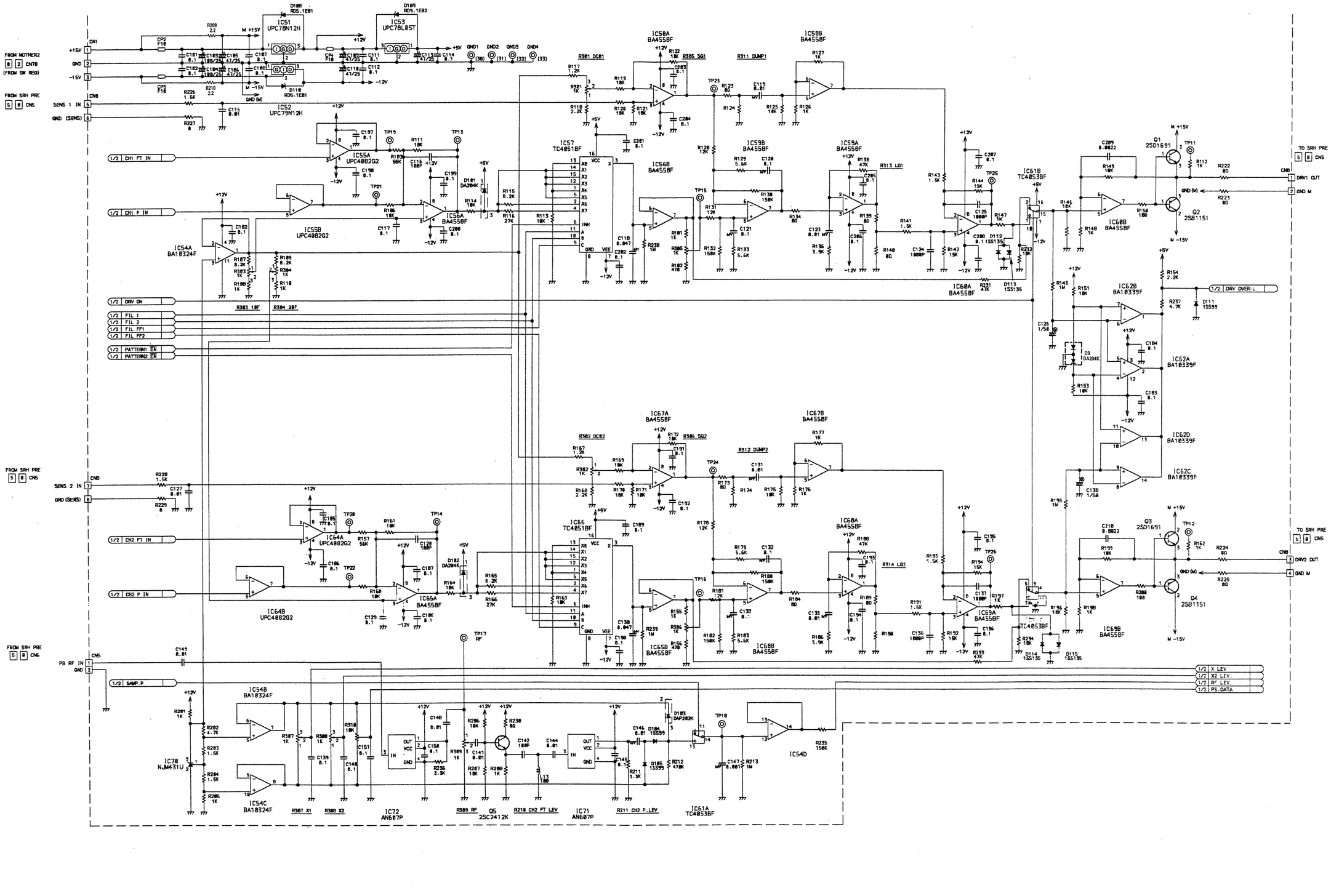


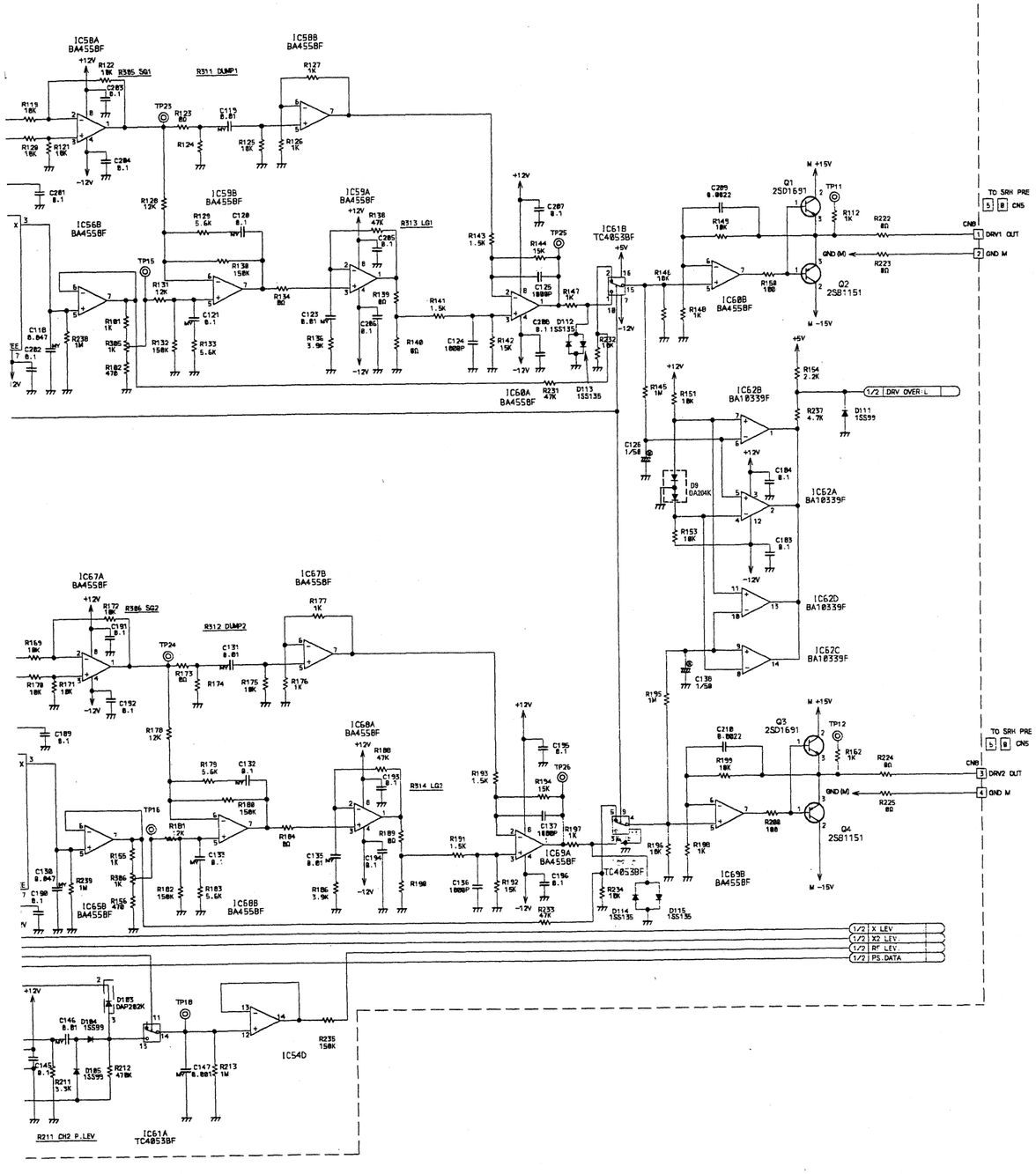
4.58 VARIABLE TRACKING (AT) SCHEMATIC DIAGRAM (BR-S525E)

— DIAGRAM (1/2) —


IC1 PQ038241-9-X
IC2 μPD78233GC
IC3 M51957BFP
IC4 TC74HC133AF
IC5 TC74HC573AF
IC7 TC74HC115AF
IC11 TC74HC541AF
IC12 TC74HC191AF
IC13 TC74HC191AF
IC14 TC74HC191AF
IC15 TC74HC541AF
IC16 TC74HC191AF
IC17 TC74HC191AF
IC18 TC74HC191AF
IC19 TC74HC541AF
IC21 MSM5218RS
IC22 TC74HC484BAF
IC23 TC74HC191AF
IC24 TC74HC191AF
IC25A TC74HC74AF
IC25B TC74HC74AF
IC26A TC74HC74AF
IC26B TC74HC74AF
IC27A TC4050BF
IC27B
IC27C
IC27D
IC27E
IC27F
IC28A TC74HC86AF
IC28B
IC28C
IC28D
IC28E
IC29A TC74HC08AF
IC29B
IC29C
IC29D TC7S08F
IC29E
IC30A TC74HC86AF
IC30B
IC31A TC74HC08AF
IC31B
IC31C
IC31D
IC32A TC74HC32AF
IC32B
IC32C
IC32D
IC34A TC74HC04AF
IC34B
IC34C
IC34D
IC34E
IC35 TC74HC74AF
IC36C TC74HC04BF
IC36E
IC36F
IC36G
IC36H
IC36I
IC36J
IC36K
IC36L
IC36M
IC36N
IC36O
IC36P
IC36Q
IC36R
IC36S
IC36T
IC36U
IC36V
IC36W
IC36X
IC36Y
IC36Z
IC37A
IC37B
IC37C
IC37D
IC37E
IC37F
IC37G
IC37H
IC37I
IC37J
IC37K
IC37L
IC37M
IC37N
IC37O
IC37P
IC37Q
IC37R
IC37S
IC37T
IC37U
IC37V
IC37W
IC37X
IC37Y
IC37Z
IC38A
IC38B
IC38C
IC38D
IC38E
IC38F
IC38G
IC38H
IC38I
IC38J
IC38K
IC38L
IC38M
IC38N
IC38O
IC38P
IC38Q
IC38R
IC38S
IC38T
IC38U
IC38V
IC38W
IC38X
IC38Y
IC38Z
IC39A
IC39B
IC39C
IC39D

— DIAGRAM (2/2) —


IC51 UPC78N12H
IC53 UPC78L08ST
IC52 UPC79N12H
IC54A BA10324F
IC54B BA10324F
IC54C BA10324F
IC54D
IC55A UPC4082G2
IC55B UPC4082G2
IC56A BA4558F
IC56B BA4558F
IC57 TC4051BF
IC58A BA4558F
IC58B BA4558F
IC59A BA4558F
IC59B BA4558F
IC60A BA4558F
IC60B BA4558F
IC61A TC4053BF
IC61B TC4053BF
IC62A BA10339F
IC62B BA10339F
IC62C BA10339F
IC62D BA10339F
IC64A UPC4082G2
IC64B UPC4082G2
IC65A BA4558F
IC65B BA4558F
IC66 TC4051BF
IC67A BA4558F
IC67B BA4558F
IC68A BA4558F
IC68B BA4558F
IC69A BA4558F
IC69B BA4558F
IC70 NJM431U
IC71 AN607P
IC72 AN607P
Q1 2SD1691
Q2 2SB1151
Q3 2SD1691
Q4 2SB1151
Q5 2SC2412K
FROM MOTHER2
FROM SW REG
FROM SRH PRE
TO SRH PRE
SENS 1 IN
SENS 2 IN
GND (SENS)
PB RF IN
1/2 CH1 FT IN
1/2 CH1 P IN
1/2 CH2 FT IN
1/2 CH2 P IN
1/2 SAMP.P
1/2 DRV ON
1/2 F1L 1
1/2 F1L 2
1/2 F1L FF1
1/2 F1L FF2
1/2 PATTERN1 EN
1/2 PATTERN2 EN
1/2 DRV OVER:L
DRV1 OUT
DRV2 OUT
GND M
1/2 X LEV.
1/2 X2 LEV.
1/2 RF LEV.
1/2 PS.DATA
R381 DC81
R382 DC82
R385 SQ1
R386 SQ2
R311 DUMP1
R312 DUMP2
R313 LG1
R314 LG2
R383 1BF
R384 2BF
R387 X1
R388 X2
R389 RF
R218 CH2 FT LEV
R211 CH2 P.LEV



— DC Voltage (1/3) — (VT)

SYMBOL No.		PB	SYMBOL No.		PB	SYMBOL No.		PB	SYMBOL No.		PB	SYMBOL No.		PB	SYMBOL No.		PB
INTEGRATED CIRCUIT			IC 2	33	1.4	IC 4	6	1.6	IC 8	12	0.3	IC12	1	0.0	IC15	14	2.0
IC 1	1	5.1	:4E	34	2.2	: 7E	7	1.4	:7F	13	5.1	:6D	2	*2.2*	:8D	15	2.0
:7E	2	4.7		35	1.7		8	0.0		14	5.0		3	*2.2*		16	1.8
	3	1.9		36	1.4		9	5.0		15	0.0		4	2.3		17	2.0
	4	3.4		37	1.6		10	2.6		16	5.1		5	0.1		18	1.8
	5	2.2		38	2.0		11	2.9	IC 9	1	2.1		6	*2.1*		19	5.1
	6	2.6		39	2.1		12	3.4	:6F	2	*2.2*		7	–		20	5.1
	7	2.6		40	2.1		13	1.9		3	2.5		8	0.0	IC16	1	0.0
	8	2.5		41	1.8		14	4.7		4	5.1		9	1.9	: 6C	2	0.0
	9	2.5		42	2.1		15	5.1		5	0.0		10	0.0		3	0.0
	10	2.5		43	1.9		16	5.1		6	*2.2*		11	5.1		4	5.0
	11	1.9		44	0.5	IC 5	1	0.0		7	*2.2*		12	–		5	0.1
	12	2.0		45	0.0	: 8F	2	1.9		8	0.0		13	5.1		6	0.0
	13	1.8		46	5.1		3	2.0		9	2.6		14	5.0		7	0.0
	14	0.0		47	5.1		4	1.8		10	2.6		15	2.5		8	0.0
	15	2.4		48	0.0		5	2.0		11	5.1		16	5.1		9	1.6
	16	2.4		49	4.7		6	2.1		12	0.3	IC13	1	1.7		10	0.0
	17	2.4		50	5.1		7	2.2		13	5.1	:7D	2	0.0		11	5.1
	18	2.4		51	0.2		8	1.5		14	5.0		3	–		12	0.1
	19	2.0		52	0.2		9	1.3		15	2.8		4	5.1		13	5.1
	20	0.7		53	0.2		10	0.0		16	5.1		5	0.1		14	5.0
	21	0.7		54	5.1		11	0.4	IC10	1	0.0		6	0.0		15	2.5
	22	3.3		55	5.1		12	2.3	: 6G	2	*2.2*		7	0.5		16	5.1
	23	0.7		56	2.8		13	1.8		3	*2.2*		8	0.0	IC17	1	1.6
	24	0.7		57	2.2		14	2.4		4	5.1		9	1.9	: 7C	2	0.0
	25	0.7		58	2.5		15	2.5		5	0.0		10	1.9		3	0.0
	26	0.7		59	0.0		16	2.5		6	*2.2*		11	5.1		4	5.1
	27	0.7		60	0.0		17	2.5		7	5.1		12	0.1		5	0.1
	28	5.1		61	5.1		18	2.5		8	0.0		13	5.1		6	0.0
IC 2	1	4.9		62	0.1		19	2.5		9	0.0		14	5.0		7	0.0
:4E	2	–		63	0.0		20	5.1		10	0.0		15	1.9		8	0.0
	3	– 0.0		64	5.1	IC 6	1	7.9		11	5.1		16	5.1		9	1.5
	4	– 0.0		65	5.1	:1B	2	0.0		12	0.0	IC14	1	1.5		10	2.3
	5	– 4.0		66	0.0		3	5.1		13	5.1	: 8C	2	0.0		11	5.1
	6	– 2.6		67	2.6	IC 7	1	0.0		14	5.0		3	0.0		12	0.1
	7	5.1		68	2.5	: 5E	2	2.0		15	1.3		4	5.1		13	5.1
	8	5.1		69	5.1		3	2.5		16	5.1		5	0.1		14	5.0
	9	2.5		70	0.0		4	5.1	IC11	1	5.1		6	5.0		15	1.3
	10	2.5		71	5.1		5	5.1	:8F	2	2.6		7	0.0		16	5.1
	11	0.0		72	2.8		6	5.1		3	2.5		8	0.0	IC18	1	1.5
	12	0.0		73	0.1		7	5.1		4	2.5		9	0.0	:8C	2	0.0
	13	0.0		74	2.6		8	0.0		5	2.5		10	1.3		3	0.0
	14	0.5		75	0.0		9	5.1		6	*2.2*		11	5.1		4	5.1
	15	0.0		76	4.0		10	5.1		7	*2.2*		12	0.0		5	0.1
	16	5.1		77	0.2		11	5.1		8	*2.2*		13	5.1		6	5.0
	17	5.1		78	1.7		12	5.1		9	*2.2*		14	5.0		7	0.0
	18	5.0		79	0.0		13	2.5		10	0.0		15	2.2		8	0.0
	19	5.1		80	– 0.0		14	5.0		11	2.2		16	5.1		9	0.0
	20	5.1	IC 3	1	0.0		15	5.1		12	2.7	IC15	1	5.1		10	1.3
	21	5.1	:3E	2	1.5		16	5.1		13	1.9	:8D	2	–		11	5.1
	22	5.1		3	0.0	IC 8	1	1.6		14	1.9		3	–		12	0.0
	23	2.2		4	0.0	:7F	2	2.6		15	1.9		4	0.0		13	5.1
	24	1.7		5	1.2		3	2.5		16	1.7		5	0.0		14	5.0
	25	0.1		6	5.1		4	0.0		17	1.9		6	0.0		15	1.9
	26	–		7	5.1		5	0.0		18	1.7		7	0.0		16	5.1
	27	–		8	0.0		6	2.5		19	5.0		8	0.0			
	28	0.4	IC4	1	0.4		7	2.5		20	5.1		9	5.0			
	29	0.4	: 7E	2	0.4		8	0.0					10	0.0			
	30	0.7		3	0.7		9	1.5					11	1.3			
	31	4.7		4	1.7		10	1.8					12	1.5			
	32	1.6		5	2.2		11	5.1					13	2.0			

— DC Voltage (2/3) — (VT)

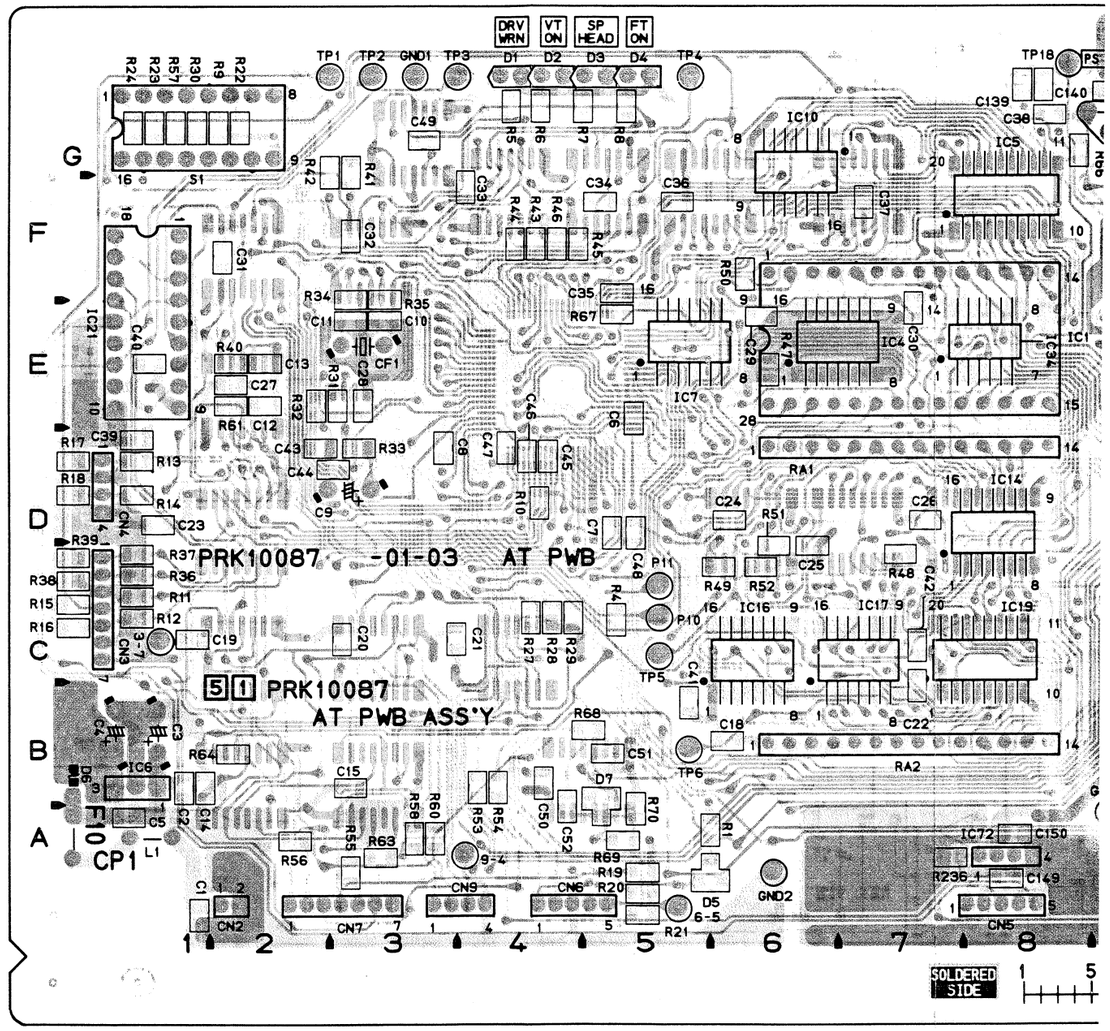
SYMBOL No.		PB	SYMBOL No.		PB	SYMBOL No.		PB	SYMBOL No.		PB	SYMBOL No.		PB	SYMBOL No.		PB
IC19	1	5.1	IC22	10	2.5	IC27	9	2.2	IC31	12	2.6	IC51	1	14.8	IC58	7	0.0
: 8C	2	0.0	:3C	11	0.0	:2D	10	2.2	:4H	13	2.5	:13B	2	0.0	:12E	8	11.9
	3	0.0		12	2.5		11	2.6		14	5.1		3	11.9	IC59	1	0.0
	4	0.0		13	2.5		12	2.5	IC32	1	5.0	IC52	1	0.0	:13E	2	0.0
	5	0.0		14	2.5		13	0.0	:5H	2	3.8	:13B	2	−14.9		3	0.0
	6	0.0		15	2.5		14	2.5		3	5.0		3	−12.1		4	−12.1
	7	0.0		16	5.1		15	2.5		4	0.0	IC53	1	5.1		5	0.0
	8	0.0	IC23	1	0.0		16	0.0		5	2.5	:13A	2	0.0		6	0.0
	9	5.0	:2B	2	2.5	IC28	1	0.0		6	0.0		3	11.9		7	0.0
	10	0.0		3	2.5	:3F	2	5.0		7	0.0	IC54	1	8.7		8	11.9
	11	1.3		4	0.0		3	5.0		8	0.1	:9E	2	8.7	IC60	1	0.0
	12	1.5		5	5.1		4	0.1		9	0.0		3	8.7	:14E	2	0.0
	13	2.0		6	2.5		5	2.5		10	0.1		4	11.9		3	0.0
	14	2.1		7	2.5		6	2.5		11	5.0		5	4.0		4	−12.1
	15	2.0		8	0.0		7	0.0		12	5.0		6	4.0		5	0.0
	16	1.8		9	5.1		8	2.5		13	3.8		7	4.0		6	0.0
	17	1.9		10	0.0		9	2.5		14	5.1		8	1.0		7	0.7
	18	1.7		11	5.1		10	2.5	IC34	1	0.1		9	1.0		8	11.9
	19	5.1		12	0.3		11	2.6	: 8E	2	5.0		10	1.0	IC61	1	0.0
	20	5.1		13	4.9		12	2.6		3	5.1		11	0.0	:11B	2	0.0
IC20	1	5.1		14	2.5		13	–		4	0.0		12	2.9		3	0.0
:2C	2	5.0		15	0.0		14	5.1		5	0.0		13	3.0		4	0.0
	3	0.0		16	5.1	IC29	1	5.1		6	5.1		14	3.0		5	0.0
	4	5.1	IC24	1	5.1	:2F	2	5.0		7	0.0	IC55	1	2.7		6	0.0
	5	5.0	:3B	2	2.5		3	5.0		8	5.1	:9E	2	2.7		7	−12.1
	6	0.0		3	2.5		4	0.2		9	0.0		3	2.8		8	0.0
	7	0.0		4	4.9		5	5.0		10	0.0		4	−12.1		9	5.0
	8	2.5		5	5.1		6	0.2		11	5.0		5	2.6		10	5.0
	9	2.6		6	2.5		7	0.0		12	2.7		6	2.6		11	0.2
	10	5.1		7	2.5		8	5.1		13	2.3		7	2.6		12	2.8
	11	5.0		8	0.0		9	5.1		14	5.0		8	11.9		13	2.8
	12	2.5		9	5.1		10	5.1	IC35	1	5.1	IC56	1	0.5		14	2.9
	13	5.1		10	5.0		11	0.2	:3G	2	2.5	:10E	2	1.4		15	0.0
	14	5.1		11	5.1		12	0.3		3	2.5		3	1.4		16	5.1
IC21	1	2.5		12	0.3		13	0.3		4	5.1		4	−12.1	IC62	1	4.7
:1E	2	2.5		13	5.1		14	5.1		5	2.5		5	− 0.1	:12B	2	4.7
	3	5.1		14	2.5	IC30	1	0.3		6	2.5		6	− 0.1		3	11.9
	4	0.0		15	5.0	:2E	2	0.4		7	0.0		7	− 0.1		4	− 0.6
	5	5.1		16	5.1		3	0.3		8	5.1		8	11.9		5	0.0
	6	5.0	IC25	1	5.1		4	0.0		9	0.0	IC57	1	0.0		6	0.0
	7	5.1	:4C	2	2.5		5	0.0		10	5.1	:11E	2	0.6		7	0.0
	8	5.1		3	2.5		6	0.0		11	0.0		3	− 0.1		8	− 0.6
	9	0.0		4	5.1		7	0.0		12	0.0		4	− 0.1		9	0.0
	10	0.0		5	2.5		8	0.0		13	5.1		5	0.0		10	0.0
	11	5.1		6	2.6		9	0.0		14	5.1		6	0.0		11	0.6
	12	5.1		7	0.0		10	0.0	IC36	1	0.0		7	−12.1		12	−12.1
	13	0.0		8	2.6		11	0.0	:5B	2	0.0		8	0.0		13	4.7
	14	0.0		9	2.5		12	2.1		3	0.0		9	2.2		14	4.7
	15	2.4		10	5.1		13	2.1		4	0.0		10	4.1	IC64	1	2.6
	16	2.5		11	2.5		14	0.3		5	0.0		11	4.4	:9D	2	2.6
	17	5.1		12	2.5	IC31	1	5.0		6	0.0		12	− 0.1		3	2.6
	18	5.1		13	5.1	:4F	2	5.0		7	0.0		13	0.0		4	−12.1
IC22	1	2.5		14	5.1		3	0.1		8	0.0		14	− 0.1		5	2.6
:3C	2	2.5	IC27	1	5.1		4	2.5		9	0.0		15	− 0.1		6	2.6
	3	2.5	:2D	2	0.1		5	2.5		10	5.1		16	5.1		7	2.6
	4	2.5		3	0.2		6	0.0		11	0.0	IC58	1	0.0		8	0.0
	5	2.5		4	0.1		7	0.0		12	0.0	:12E	2	2.6			
	6	2.5		5	0.1		8	3.8		13	0.0		3	2.6			
	7	2.5		6	0.3		9	2.5		14	0.0		4	−12.1			
	8	0.0		7	0.4		10	2.5		15	0.0		5	0.0			
	9	2.6		8	0.0		11	5.0		16	5.1		6	0.0			

— DC Voltage (3/3) — (VT)

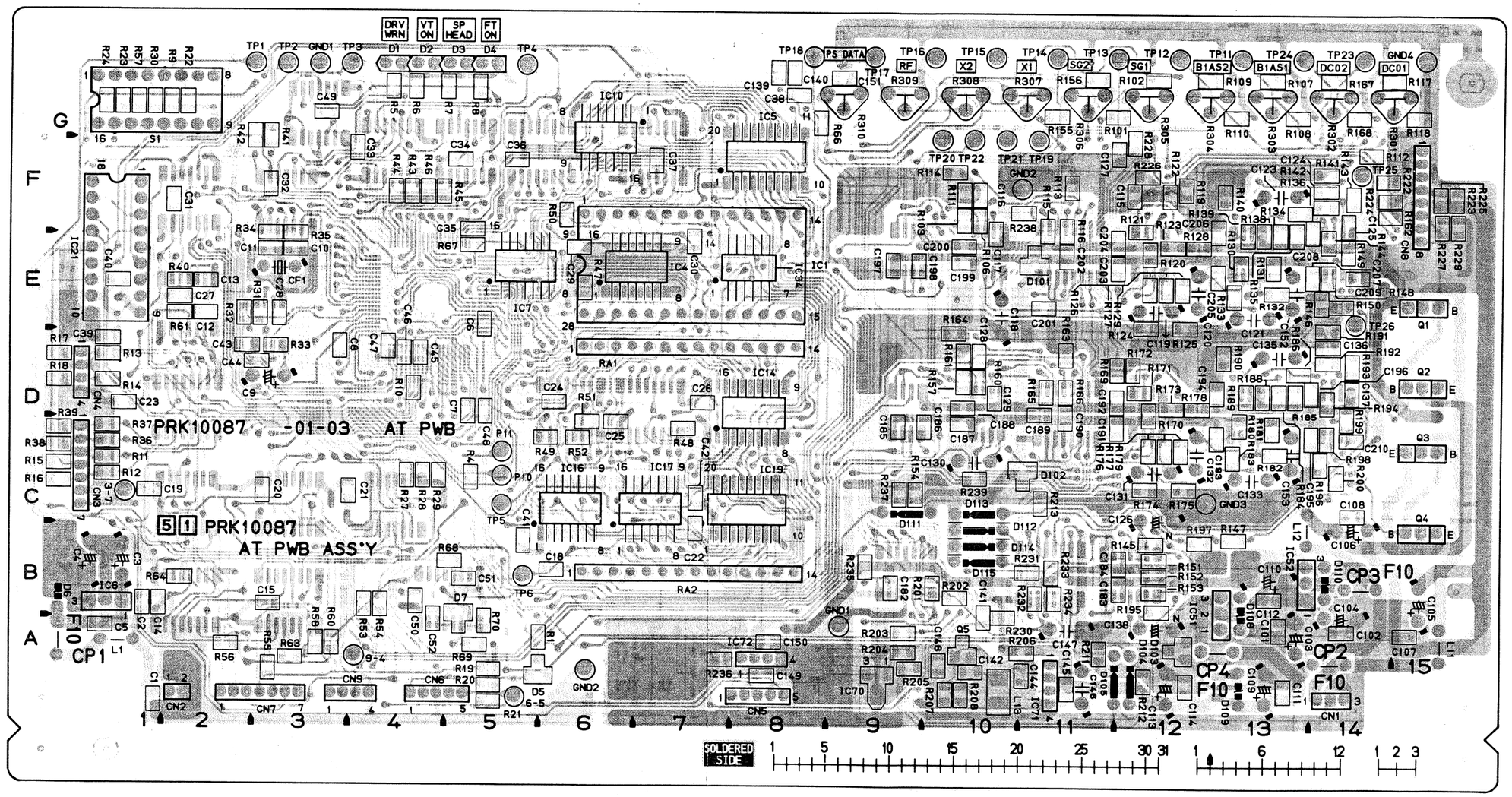
SYMBOL No.		PB	SYMBOL No.		PB
IC 65	1	− 0.1	TRANSISTOR		
:10D	2	1.3	Q 1	B	0.7
	3	1.3	:14E	C	14.8
	4	−12.1		E	0.2
	5	− 0.1	Q 2	B	0.6
	6	− 0.1	:14D	C	−14.9
	7	− 0.1		E	0.0
	8	11.9	Q 3	B	− 1.0
IC 66	1	0.0	:14C	C	14.8
:11D	2	− 0.1		E	− 0.4
	3	− 0.1	Q 4	B	− 1.0
	4	− 0.1	:12C	C	−14.9
	5	− 0.1		E	0.0
	6	0.0	Q 5	B	5.8
	7	−12.1	:10A	C	11.9
	8	0.0		E	5.2
	9	2.2	CONNECTOR		
	10	4.1	CN 1	1	14.8
	11	4.4	:14A	2	0.0
	12	− 0.1		3	−15.0
	13	0.0	CN 2	1	8.0
	14	− 0.1	:2A	2	0.0
	15	− 0.1	CN 3	1	2.5
	16	5.1	:1C	2	2.6
IC 67	1	0.0		3	0.0
:12D	2	2.5		4	2.1
	3	2.5		5	0.2
	4	0.0		6	0.0
	5	0.0		7	0.0
	6	0.0	CN 4	1	0.1
	7	0.0	:1D	2	0.0
	8	11.9		3	0.4
IC68	1	0.0		4	0.0
:13D	2	0.0	CN 5	1	0.0
	3	0.0	:8A	2	0.0
	4	−12.1		3	0.0
	5	0.0		4	0.0
	6	0.0		5	0.0
	7	0.0	CN 6	1	–
	8	11.9	:4A	2	4.9
IC69	1	0.0		3	0.0
:14D	2	0.0		4	3.9
	3	0.0		5	5.0
	4	−12.1	CN 7	1	2.3
	5	0.0	:3A	2	4.3
	6	0.0		3	5.0
	7	− 1.0		4	5.0
	8	11.9		5	0.0
IC70	1	2.5		6	0.4
: 9A	2	0.0	CN 8	1	0.2
	3	8.7	:14E	2	0.0
IC71	1	6.7		3	− 0.4
:11A	2	11.9		4	0.0
	3	2.7		5	5.5
	4	0.0		6	0.0
IC72	1	6.3		7	5.2
:8A	2	11.9		8	0.0
	3	2.7	CN 9	1	5.0
	4	0.0	:4A	2	5.0
				3	0.0
				4	0.0

4.59 VARIABLE TRACKING (AT) CIRCUIT BOARD (BR-S525E)

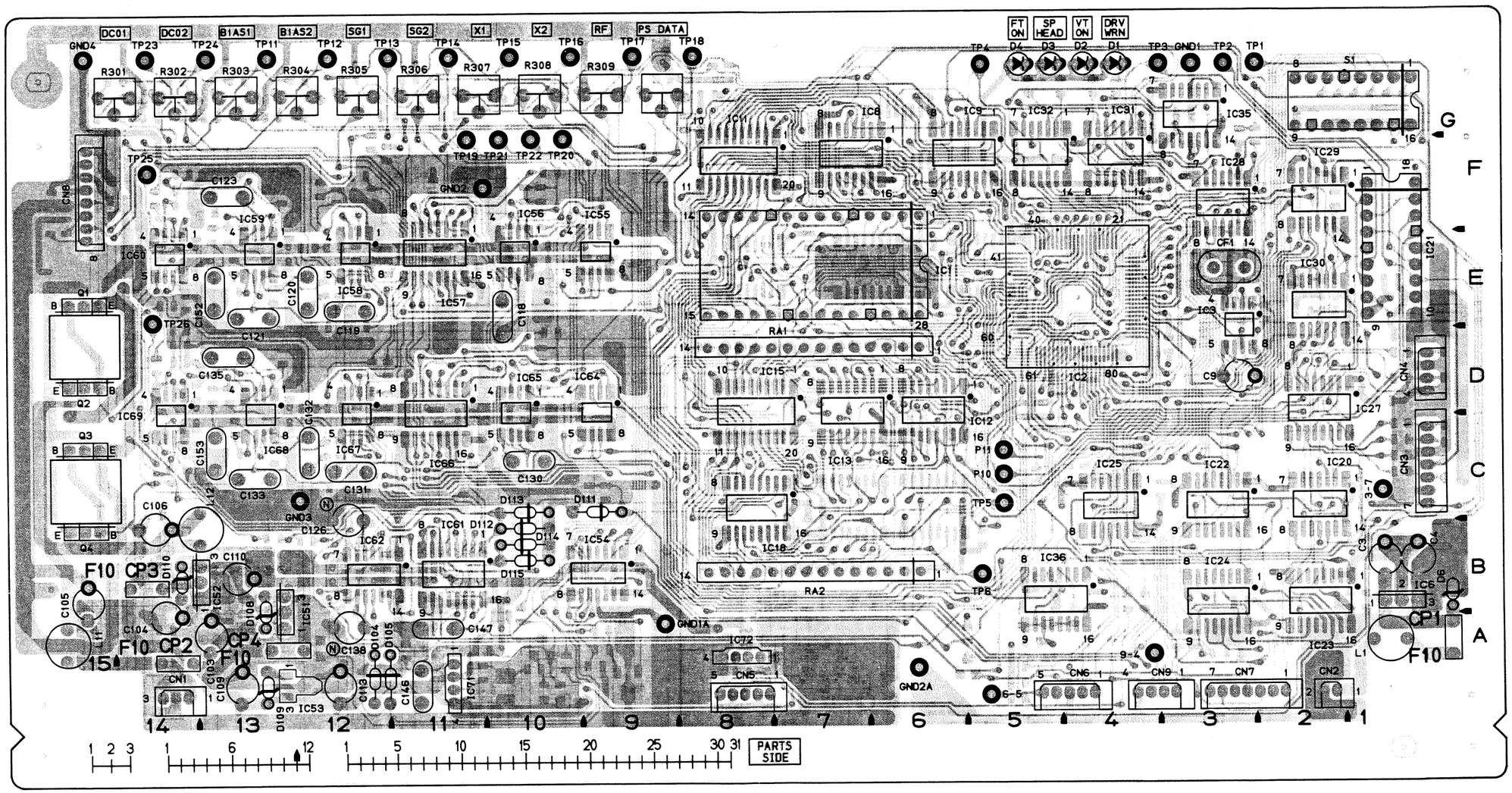
(SOLDER SIDE)



(SOLDER SIDE)

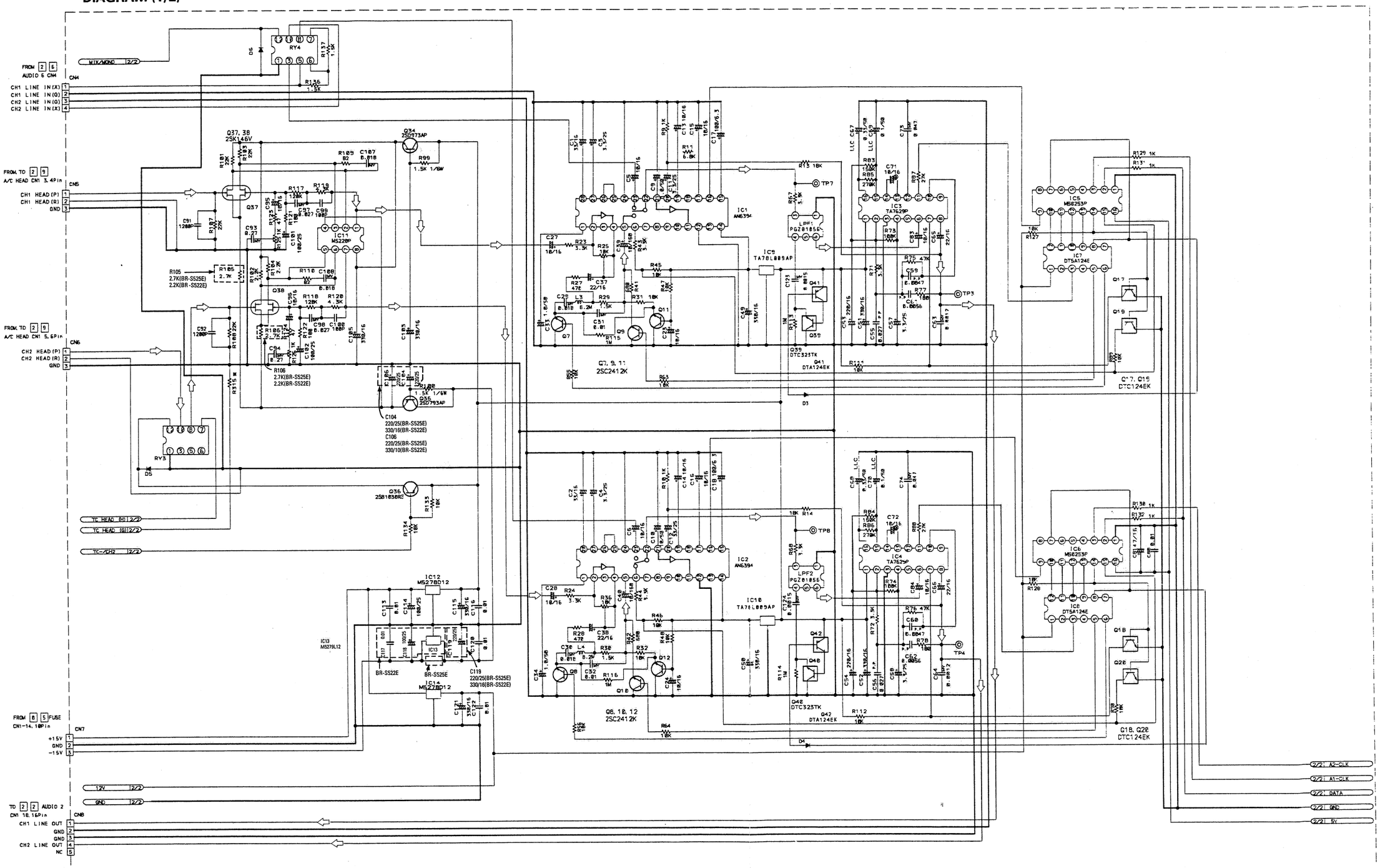

PRK10087 -01-03 AT PWB
5 1 PRK10087
AT PWB ASS'Y
DRV WRN
VT ON
SP HEAD
FT ON
PS DATA
RF
X2
X1
SG2
SG1
B1AS2
B1AS1
DC02
DC01
GND1
GND2
GND3
GND4
SOLDERED SIDE

(PARTS SIDE)

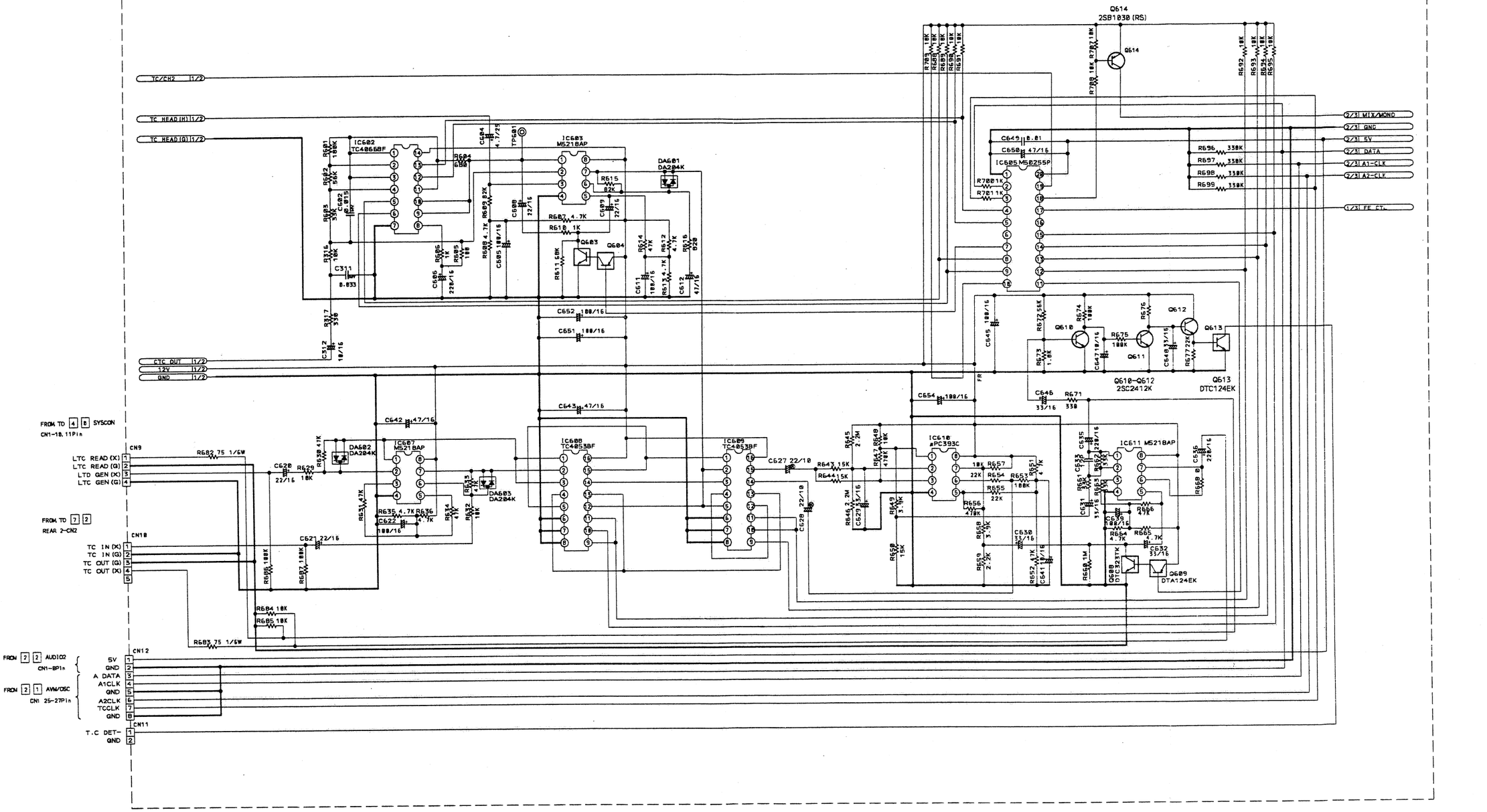

DC01
DC02
BIAS1
BIAS2
SG1
SG2
X1
X2
RF
PS DATA
FT ON
SP HEAD
VT ON
DRV WRN
GND4
TP23
TP24
TP11
TP12
TP13
TP14
TP15
TP16
TP17
TP18
TP4
TP3
GND1
TP2
TP1
R301
R302
R303
R304
R305
R306
R307
R308
R309
D4
D3
D2
D1
TP19
TP21
TP22
TP20
TP25
GND2
TP26
TP5
TPB
GND1A
GND2A
GND3
F10 CP3
F10 CP2
CP4
F10
CP1
F10
IC1
IC2
IC8
IC9
IC11
IC12
IC13
IC15
IC18
IC20
IC21
IC22
IC23
IC24
IC25
IC27
IC28
IC29
IC30
IC31
IC32
IC35
IC36
IC51
IC52
IC53
IC54
IC55
IC56
IC57
IC58
IC59
IC60
IC61
IC62
IC64
IC65
IC66
IC67
IC68
IC69
IC71
IC72
RA1
RA2
CN1
CN2
CN3
CN4
CN5
CN6
CN7
CN8
CN9
S1
Q1
Q2
Q3
Q4
P11
P10
PARTS SIDE

4.60 AUDIO-1 SCHEMATIC DIAGRAM

— DIAGRAM (1/2) —

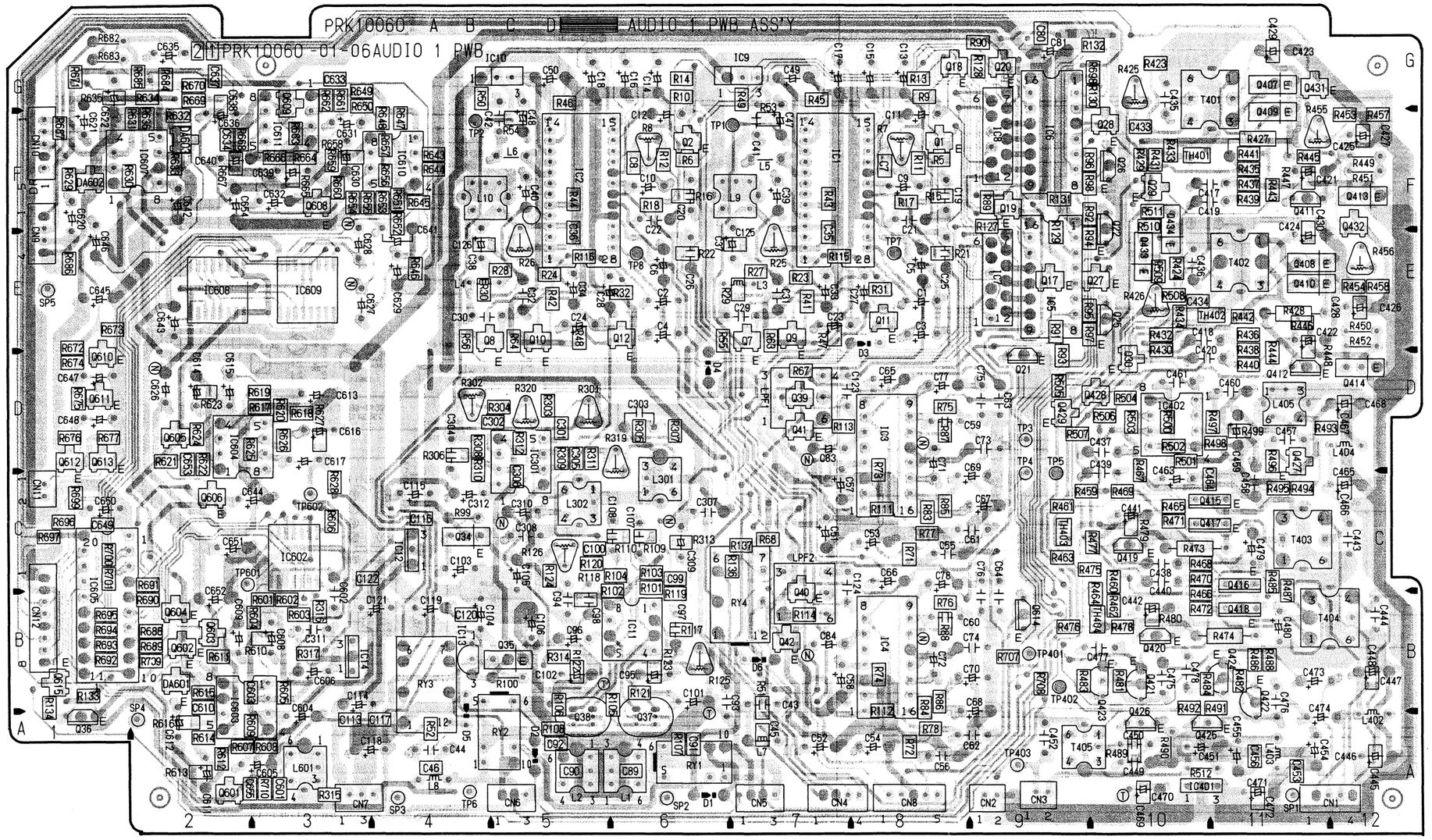


— DIAGRAM (2/2) —


TC/CH2 1/2
TC HEAD(H) 1/2
TC HEAD(G) 1/2
CTC OUT 1/2
12V 1/2
GND 1/2
IC602 TC4066BF
IC603 M5218AP
DA601 DA204K
Q603
Q604
C652 100/16
C651 100/16
C643 47/16
C642 47/16
Q614 2SB1030 (RS)
IC605 M62255P
2/3 MIX/MONO
2/3 GND
2/3 5V
2/3 DATA
2/3 A1-CLK
2/3 A2-CLK
1/3 FF CT.
Q610 Q611 Q612 2SC2412K
Q613 DTC124EK
C654 100/16
C646 33/16
R671 330
IC610 #PC393C
IC611 M5218AP
Q609 DTA124EK
C627 22/10
C629 22/10
R643 15K
R644 15K
FROM TD 4 8 SYSCON
CN1-10, 11Pin
CN9
LTC READ (X)
LTC READ (G)
LTD GEN (X)
LTC GEN (G)
R682 75 1/6W
R683 75 1/6W
FROM TD 7 2
REAR 2-CN2
CN10
TC IN (X)
TC IN (G)
TC OUT (G)
TC OUT (X)
R684 10K
R685 10K
FROM 2 2 AUDIO2
CN1-8P1n
FROM 2 1 AVM/OSC
CN1 25-27P1n
CN12
5V
GND
A DATA
A1CLK
GND
A2CLK
TCCLK
GND
CN11
T.C DET-
GND

4.61 AUDIO-1 CIRCUIT BOARD

(SOLDER SIDE)

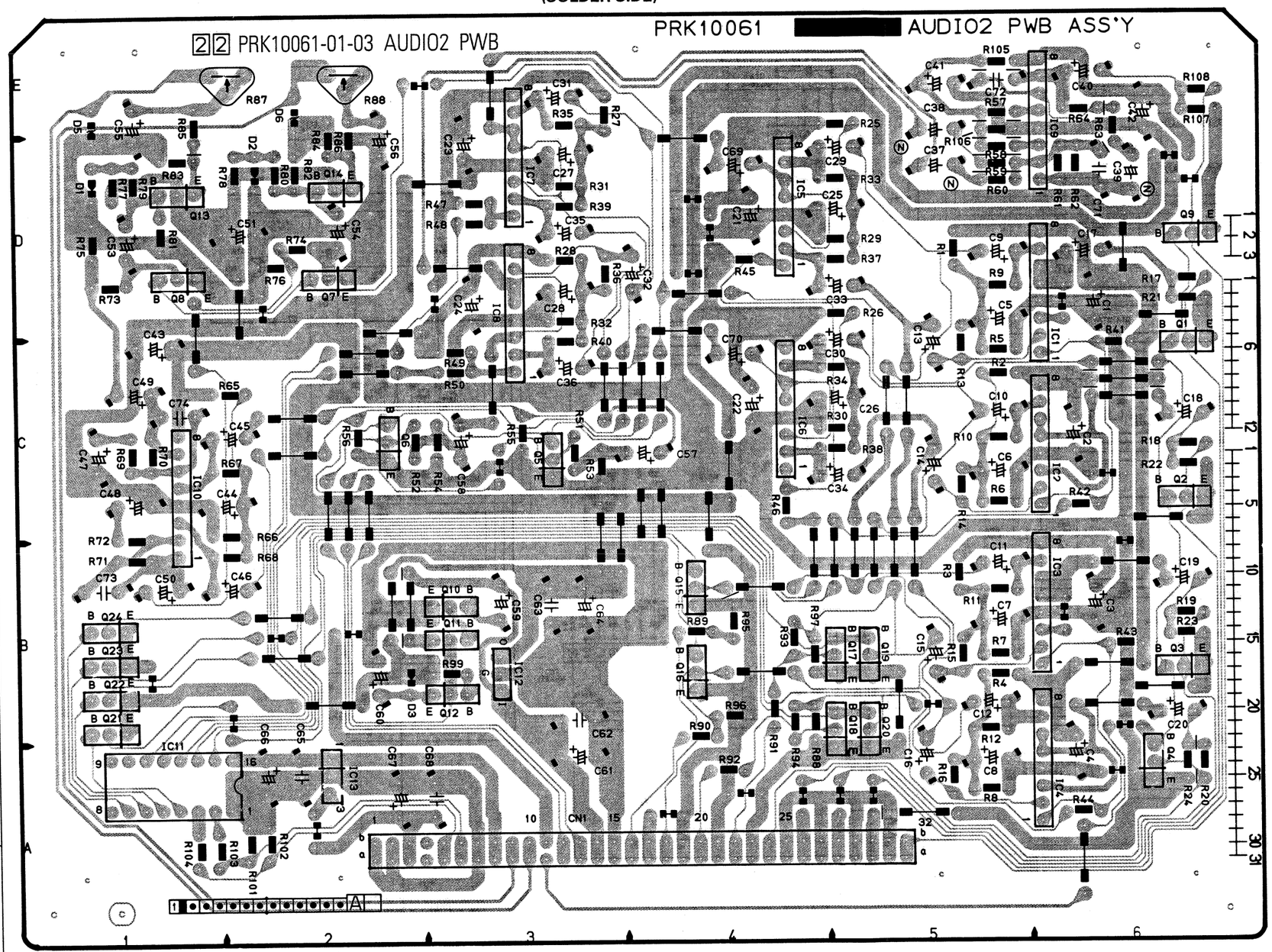


— DC Voltage —

SYMBOL No.	PB
IC	
IC1	4.5 4.0 0.0 4.6 4.7 4.7 0.1 4.7 8.9 4.7 4.8 4.7 4.8 4.7 4.8 4.7 0.0 4.7 4.7 4.7
IC2	4.3 4.0 0.0 4.6 4.7 4.7 4.8 4.7 4.8 4.7 0.0 4.7 4.7 4.7
IC3	11.5 0.0 11.5 11.5 11.5 0.0 11.5 11.5 0.0 11.5 11.5 0.0

4.62 AUDIO-2 CIRCUIT BOARD

(SOLDER SIDE)



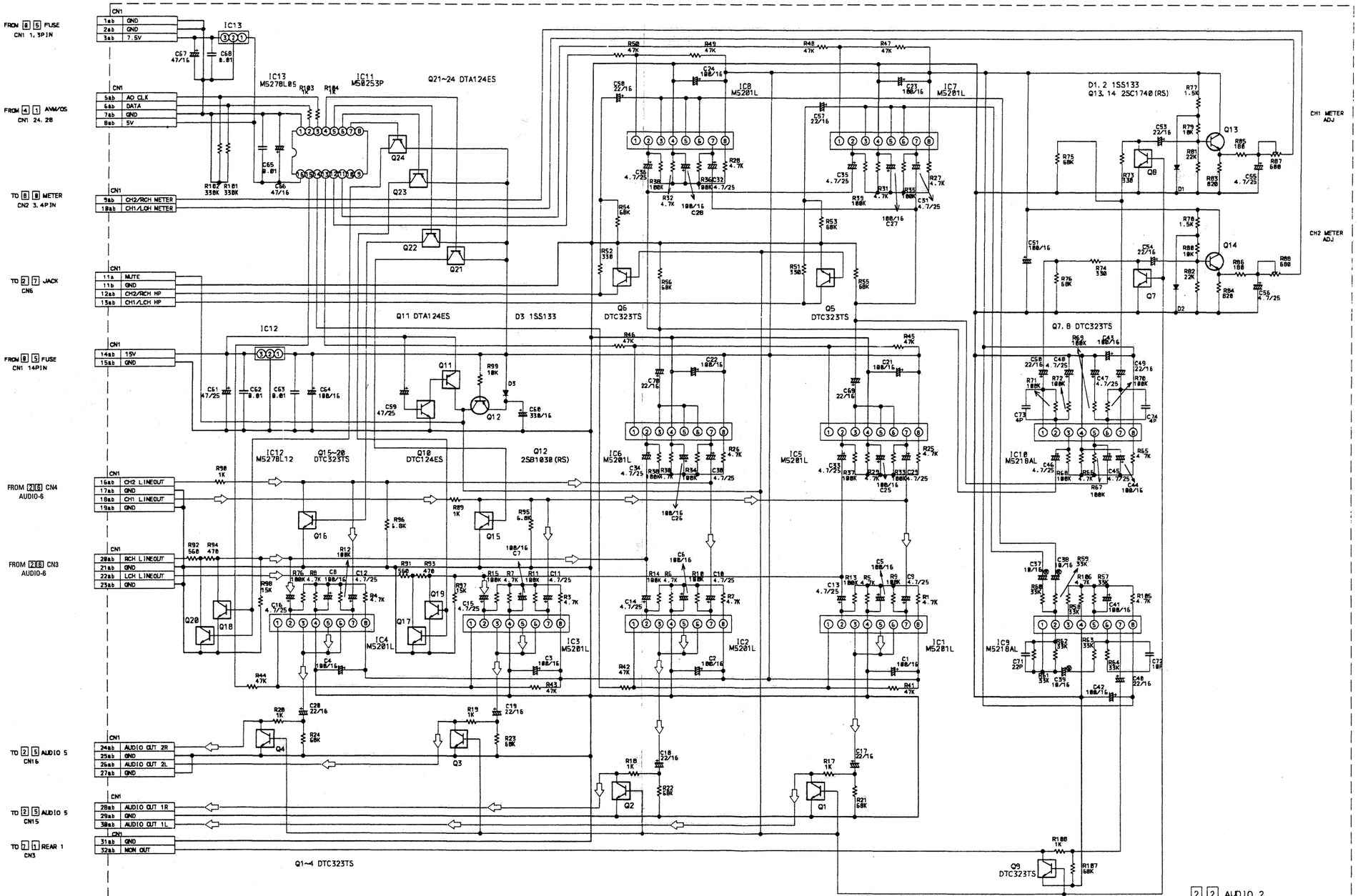
— DC Voltage —

SYMBOL No.		PB
IC		
IC1	1	10.3
	2	6.0
	3	6.0
	4	6.0
	5	6.0
	6	6.0
	7	6.0
	8	12.0
IC2	1	10.3
	2	6.1
	3	6.1
	4	0.0
	5	6.1
	6	6.1
	7	6.0
	8	12.0
IC3	1	12.0
	2	6.0
	3	6.0
	4	6.0
	5	6.0
	6	6.0
	7	6.0
	8	12.0
IC4	1	12.0
	2	6.0
	3	6.1
	4	0.0
	5	6.1
	6	6.1
	7	6.0
	8	12.0
IC5	1	10.3
	2	6.0
	3	6.1
	4	0.0
	5	6.1
	6	6.6
	7	6.0
	8	12.0
IC6	1	10.3
	2	6.0
	3	6.1
	4	0.0
	5	6.1
	6	6.1
	7	6.0
	8	12.0
IC7	1	12.0
	2	6.0
	3	6.1
	4	0.0
	5	6.1
	6	6.1
	7	6.0
	8	12.0
IC8	1	9.5
	2	6.0
	3	6.0
	4	0.0
	5	6.0
	6	6.0
	7	6.6
	8	12.0
IC9	1	6.0
	2	6.0
	3	6.0
	4	0.0
	5	6.0
	6	6.0
	7	6.0
	8	12.0
IC10	1	6.0
	2	6.0
	3	6.0
	4	0.0
	5	6.0
	6	6.0
	7	6.0
	8	12.0
IC11	1	0.0
	2	0.1
	3	0.0
	4	12.0
	5	0.0
	6	0.1
	7	0.3
	8	0.3
	9	11.9
	10	0.0
	11	0.0
	12	0.0
	13	0.0
	14	0.0
	15	11.9
	16	5.1
IC12	1	15.2
	2	0.0
	3	12.0
IC13	1	7.4
	2	0.0
	3	5.1

SYMBOL No.		PB
TRANSISTOR		
Q1	B	-0.3
	C	0.0
	E	0.0
Q2	B	-0.3
	C	0.0
	E	0.0
Q3	B	-0.3
	C	0.0
	E	0.0
Q4	B	-0.3
	C	0.0
	E	0.0
Q5	B	-0.4
	C	0.0
	E	0.0
Q6	B	-0.4
	C	0.0
	E	0.0
Q7	B	-0.4
	C	0.0
	E	0.0
Q8	B	-0.4
	C	0.0
	E	0.0
Q9	B	-0.4
	C	0.0
	E	0.0
Q10	B	0.0
	C	15.1
	E	0.0
Q11	B	15.1
	C	-0.4
	E	15.2
Q12	B	12.0
	C	-0.4
	E	11.9
Q13	B	0.5
	C	12.0
	E	0.5
Q14	B	0.5
	C	12.0
	E	0.0
Q15	B	0.0
	C	0.0
	E	0.0

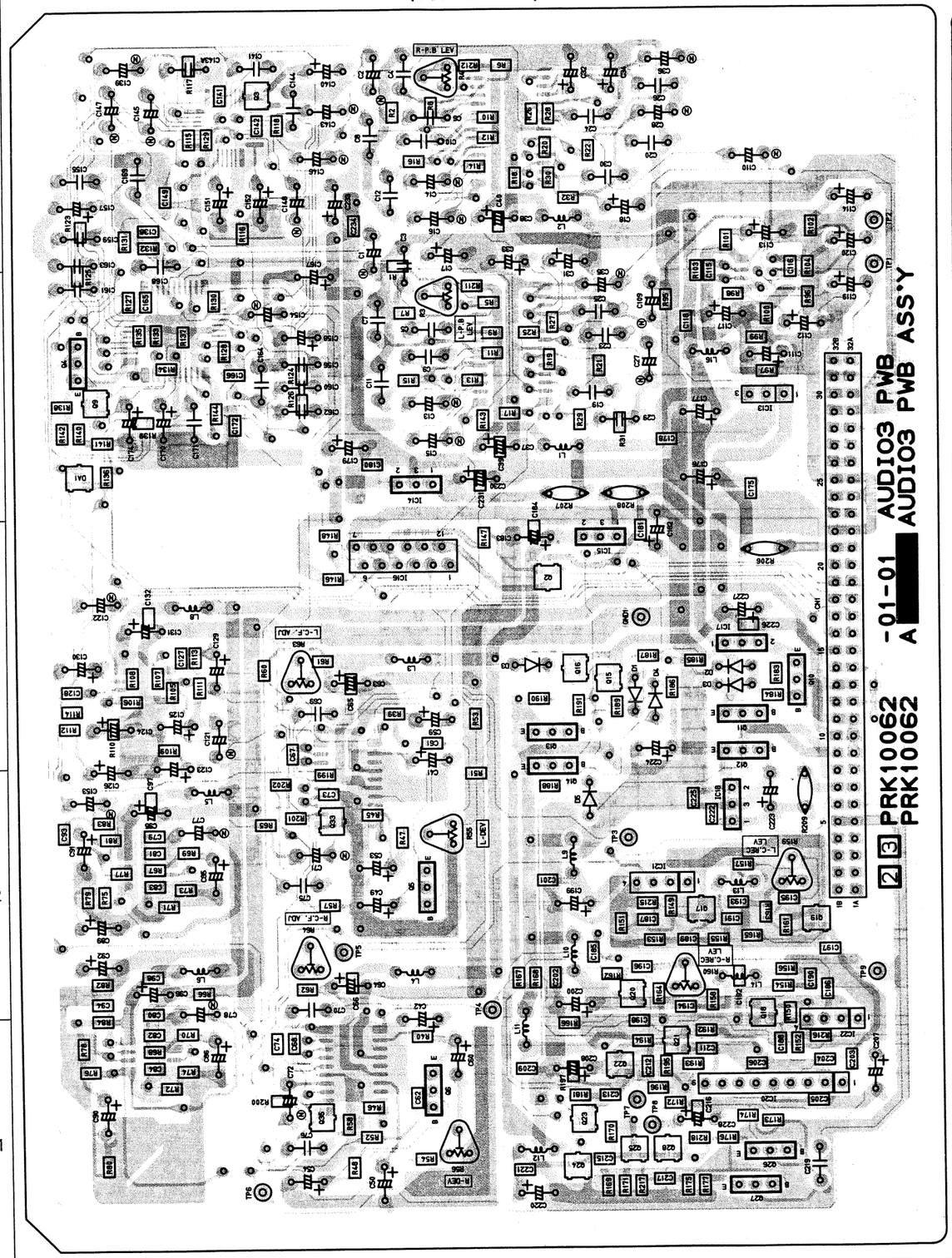
SYMBOL No.		PB
Q16	B	12.0
	C	0.0
	E	0.0
Q17	B	12.0
	C	0.0
	E	0.0
Q18	B	12.0
	C	0.0
	E	0.0
Q19	B	12.0
	C	0.0
	E	0.0
Q20	B	11.9
	C	0.0
	E	0.0
Q21	B	12.0
	C	-0.2
	E	12.3
Q22	B	0.1
	C	12.0
	E	12.0
Q23	B	0.1
	C	12.0
	E	12.0
Q24	B	0.1
	C	12.0
	E	12.0
CONNECTOR		
CN1	1AB	0.0
	2AB	0.0
	3AB	7.4
	5AB	0.0
	6AB	0.1
	7AB	0.0
	8AB	5.1
	9AB	0.0
	10AB	0.2
	11A	-0.3
	11B	0.0
	12AB	0.0
	13AB	0.0
	14AB	15.2
	15AB	0.0
	16AB	0.0
	17AB	0.0
	18AB	0.0
	19AB	0.0
	20AB	0.0
	21AB	0.0
	22AB	0.0
	23AB	0.0
	24AB	0.0
	25AB	0.0
	26AB	0.0
	27AB	0.0
	28AB	0.0
	29AB	0.0
	30AB	0.0
	31AB	0.0
	32AB	0.0

4.63 AUDIO-2 SCHEMATIC DIAGRAM

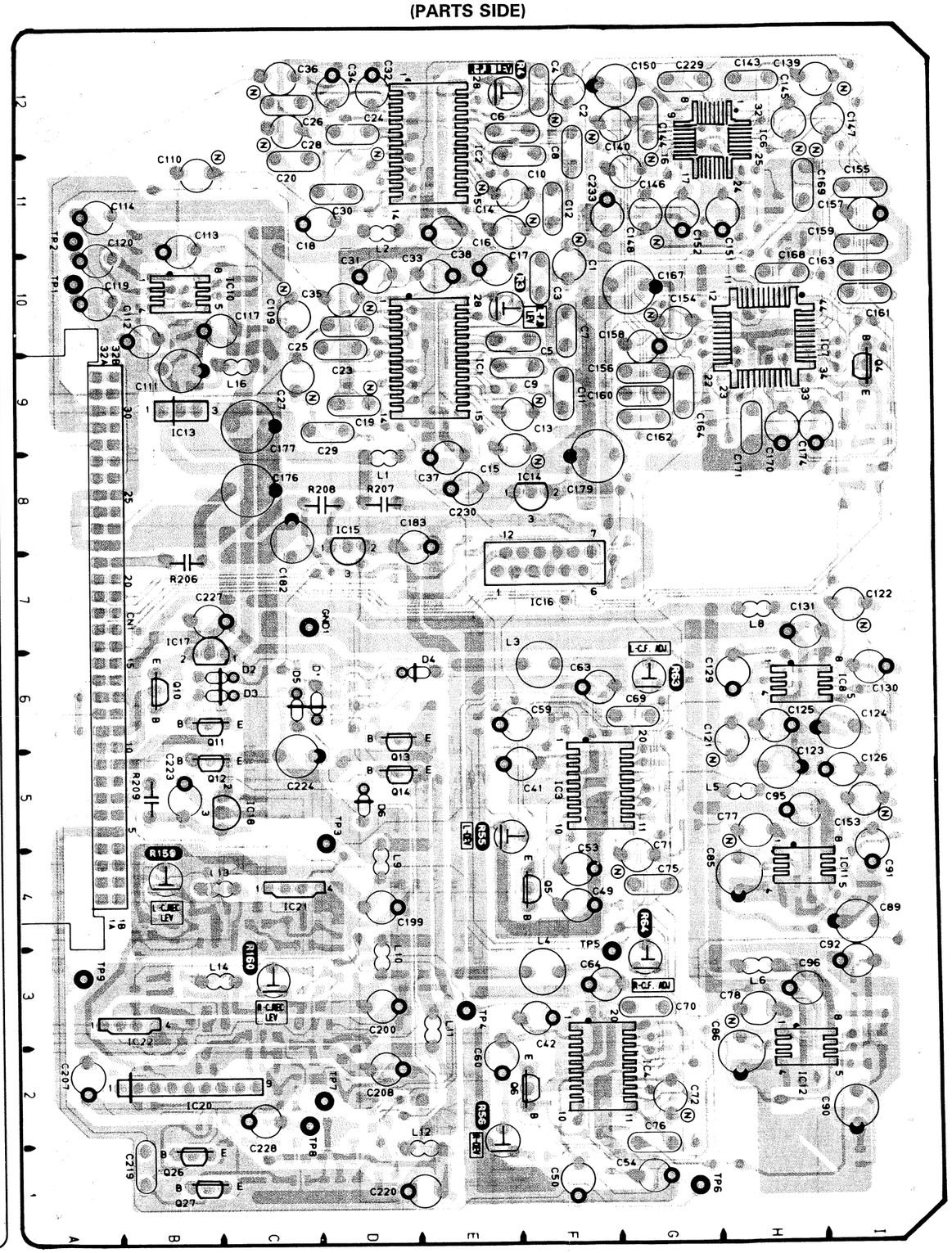


4.64 AUDIO-3 CIRCUIT BOARD

(SOLDER SIDE)



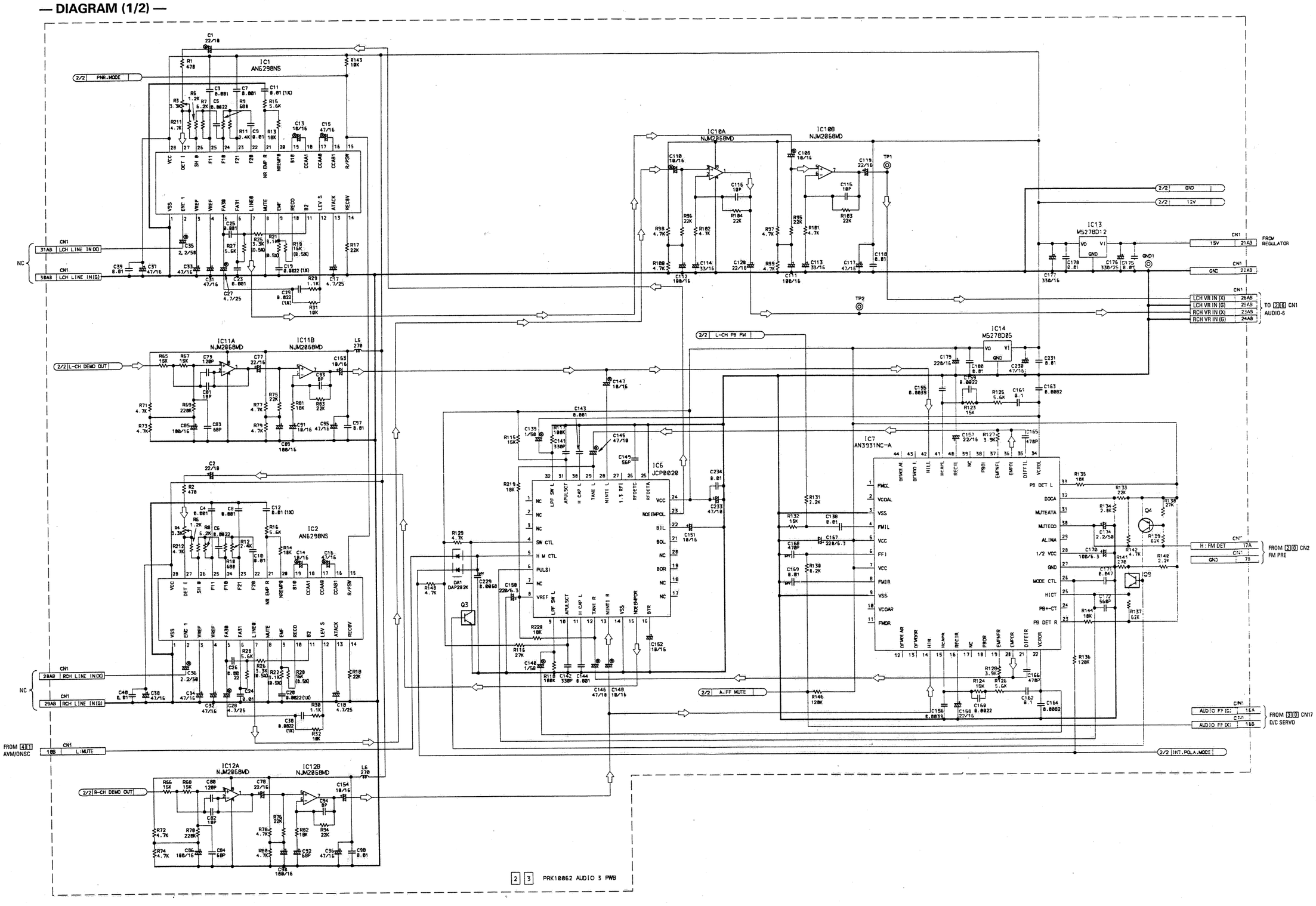
(PARTS SIDE)



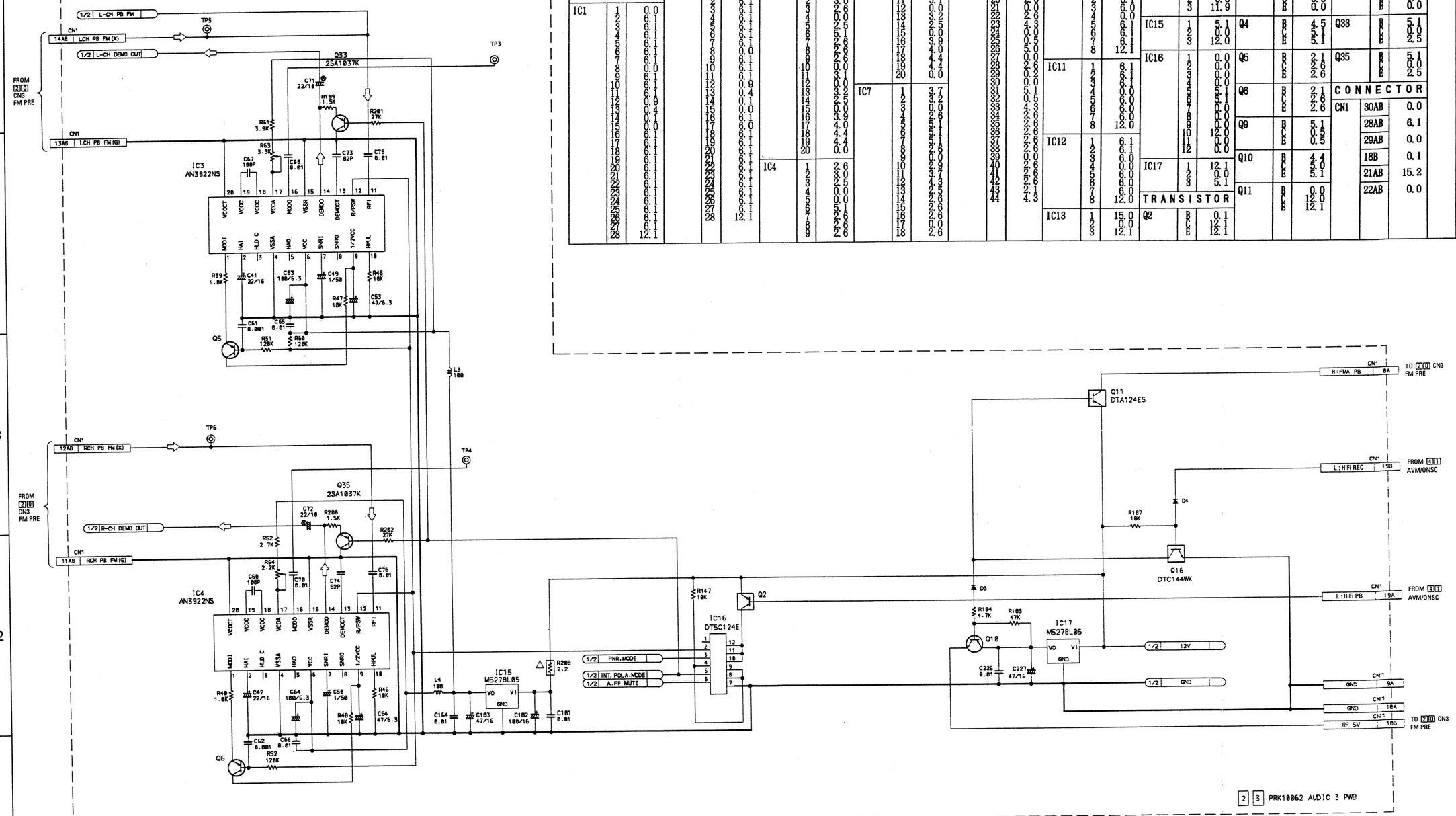
4-87 4-87

4.65 AUDIO-3 SCHEMATIC DIAGRAM

— DIAGRAM (1/2) —



— DIAGRAM (2/2) —



— DC Voltage (AUDIO-3) —

SYMBOL No.		PB
IC		
IC1	1	0.0
	2	6.1
	3	6.1
	4	6.1
	5	6.1
	6	6.1
	7	6.1
	8	0.0
	9	6.1
	10	6.1
	11	6.1
	12	0.9
	13	0.4
	14	0.1
	15	0.0
	16	6.1
	17	6.1
	18	6.1
	19	6.1
	20	6.1
	21	6.1
	22	6.1
	23	6.1
	24	6.1
	25	6.1
	26	6.1
	27	6.1
	28	12.1

SYMBOL No.		PB
IC2	1	0.0
	2	6.1
	3	6.1
	4	6.1
	5	6.1
	6	6.1
	7	6.1
	8	0.0
	9	6.1
	10	6.1
	11	6.1
	12	0.9
	13	0.4
	14	0.1
	15	0.0
	16	6.1
	17	6.0
	18	6.1
	19	6.1
	20	6.1
	21	6.1
	22	6.1
	23	6.1
	24	6.1
	25	6.1
	26	6.1
	27	6.1
	28	12.1

SYMBOL No.		PB
IC3	1	2.6
	2	3.0
	3	2.6
	4	0.0
	5	2.5
	6	5.1
	7	2.6
	8	2.6
	9	2.6
	10	0.0
	11	3.1
	12	0.0
	13	3.2
	14	2.5
	15	0.0
	16	3.9
	17	4.0
	18	4.4
	19	4.4
	20	0.0
IC4	1	2.6
	2	3.0
	3	2.5
	4	0.0
	5	0.0
	6	5.1
	7	2.6
	8	2.6
	9	2.6

SYMBOL No.		PB
IC4	10	0.0
	11	3.1
	12	0.0
	13	3.2
	14	2.5
	15	0.0
	16	3.9
	17	4.0
	18	4.4
	19	4.4
	20	0.0
IC7	1	3.7
	2	3.2
	3	0.0
	4	2.6
	5	5.1
	6	5.1
	7	5.1
	8	2.6
	9	0.0
	10	2.9
	11	3.7
	12	4.5
	13	2.6
	14	2.6
	15	2.6
	16	2.6
	17	0.0
	18	2.6

SYMBOL No.		PB
IC7	19	2.6
	20	2.6
	21	0.0
	22	2.6
	23	4.3
	24	0.0
	25	0.5
	26	3.0
	27	0.0
	28	2.6
	29	0.2
	30	0.5
	31	5.1
	32	0.5
	33	4.3
	34	2.6
	35	2.6
	36	2.6
	37	2.6
	38	0.0
	39	2.6
	40	2.6
	41	2.6
	42	2.6
	43	2.6
	44	4.3

SYMBOL No.		PB
IC10	1	6.0
	2	6.1
	3	6.0
	4	6.0
	5	6.1
	6	6.1
	7	6.1
	8	12.1
IC11	1	6.1
	2	6.1
	3	6.1
	4	0.0
	5	6.0
	6	6.0
	7	6.0
	8	12.0
IC12	1	6.1
	2	6.1
	3	6.0
	4	0.0
	5	6.0
	6	6.0
	7	6.0
	8	12.0
IC13	1	15.0
	2	0.0
	3	12.1

SYMBOL No.		PB
IC14	1	5.1
	2	0.0
	3	11.9
IC15	1	5.1
	2	0.0
	3	12.0
IC16	1	0.0
	2	0.0
	3	0.0
	4	5.1
	5	5.1
	6	0.0
	7	0.0
	8	0.0
	9	0.0
	10	12.0
	11	0.0
	12	0.0
IC17	1	12.1
	2	0.0
	3	5.1
TRANSISTOR		
Q2	B	0.1
	C	12.1
	E	12.1

SYMBOL No.		PB
Q3	B	5.1
	C	0.0
	E	0.0
Q4	B	4.5
	C	5.1
	E	5.1
Q5	B	2.1
	C	2.6
	E	2.6
Q6	B	2.1
	C	2.6
	E	2.6
Q9	B	5.1
	C	0.5
	E	0.5
Q10	B	4.4
	C	5.0
	E	5.1
Q11	B	0.0
	C	12.0
	E	12.1

SYMBOL No.		PB
Q16	B	9.9
	C	0.0
	E	0.0
Q33	B	5.1
	C	0.0
	E	2.5
Q35	B	5.1
	C	0.0
	E	2.5
CONNECTOR		
CN1	30AB	0.0
	28AB	6.1
	29AB	0.0
	18B	0.1
	21AB	15.2
	22AB	0.0

SYMBOL No.		PB
CN1	26AB	0.0
	25AB	0.0
	23AB	0.0
	24AB	0.0
	14AB	0.0
	13AB	0.0
	12AB	0.1
	11AB	0.0
	8A	12.0
	19B	9.7
	19A	0.1
	9A	0.0
	10A	0.0
	10B	5.0

4.66 XLR (AUDIO-4, -5) SCHEMATIC DIAGRAM

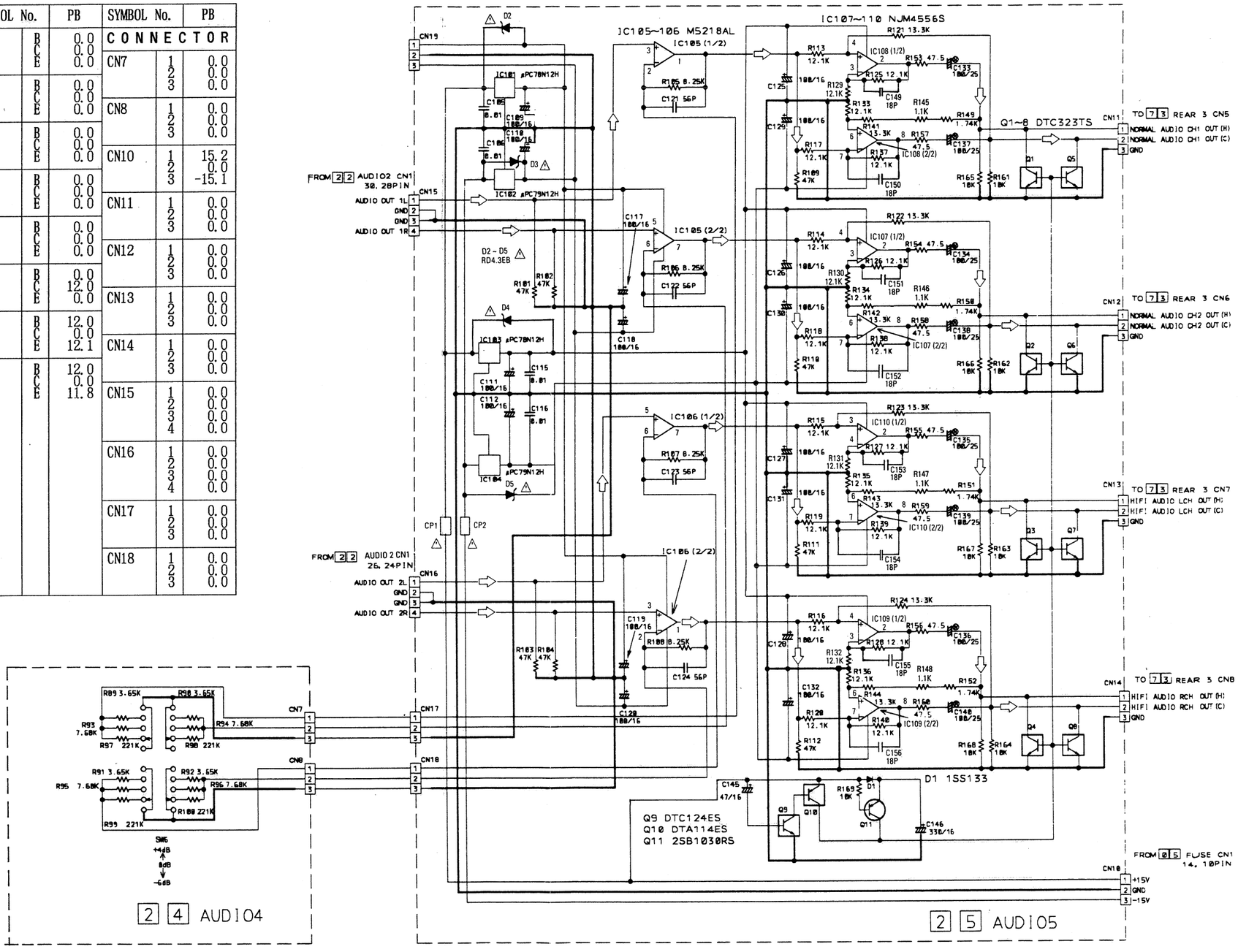
— DC Voltage (XLR) —

SYMBOL No.		PB
I C		
IC101	1	15.1
	2	0.0
	3	12.1
IC102	1	0.0
	2	-14.9
	3	-12.2
IC103	1	—
	2	—
	3	—
IC104	1	0.0
	2	-14.9
	3	-12.1
IC105	1	0.0
	2	0.0
	3	0.0
	4	-12.2
	5	0.0
	6	0.0
	7	0.0
	8	12.1
IC106	1	0.0
	2	0.0
	3	0.0
	4	-12.2
	5	0.0
	6	0.0
	7	0.0
	8	12.1
IC107	1	12.1
	2	0.0
	3	0.0
	4	0.0
	5	-12.1
	6	0.0
	7	0.0
	8	0.0
	9	12.1

SYMBOL No.		PB
IC108	1	12.1
	2	0.0
	3	0.0
	4	0.0
	5	-12.0
	6	0.0
	7	0.0
	8	0.0
	9	12.1
IC109	1	12.1
	2	0.0
	3	0.0
	4	0.0
	5	-12.1
	6	0.0
	7	0.0
	8	0.0
	9	12.1
IC110	1	12.1
	2	0.0
	3	0.0
	4	0.0
	5	-12.1
	6	0.0
	7	0.0
	8	0.0
	9	12.1
T R A N S I S T O R		
Q1	B	0.0
	C	0.0
	E	0.0
Q2	B	0.0
	C	0.0
	E	0.0
Q3	B	0.0
	C	0.0
	E	0.0

SYMBOL No.		PB
Q4	B	0.0
	C	0.0
	E	0.0
Q5	B	0.0
	C	0.0
	E	0.0
Q6	B	0.0
	C	0.0
	E	0.0
Q7	B	0.0
	C	0.0
	E	0.0
Q8	B	0.0
	C	0.0
	E	0.0
Q9	B	0.0
	C	12.0
	E	0.0
Q10	B	12.0
	C	0.0
	E	12.1
Q11	B	12.0
	C	0.0
	E	11.8

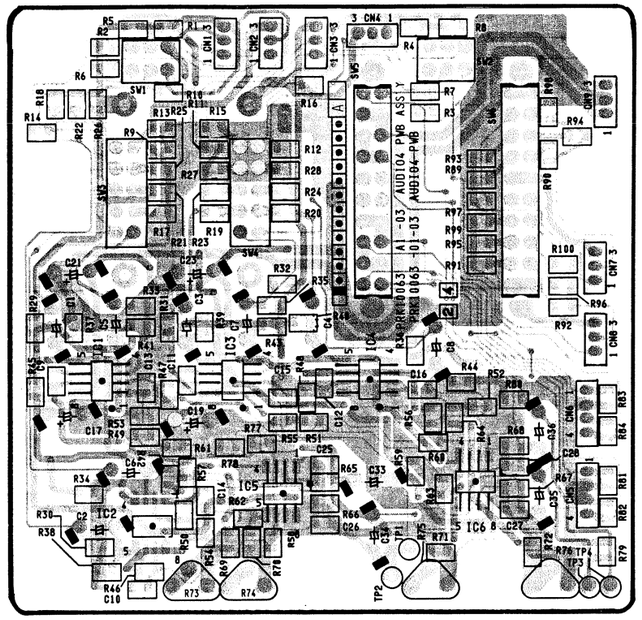
SYMBOL No.		PB
C O N N E C T O R		
CN7	1	0.0
	2	0.0
	3	0.0
CN8	1	0.0
	2	0.0
	3	0.0
CN10	1	15.2
	2	0.0
	3	-15.1
CN11	1	0.0
	2	0.0
	3	0.0
CN12	1	0.0
	2	0.0
	3	0.0
CN13	1	0.0
	2	0.0
	3	0.0
CN14	1	0.0
	2	0.0
	3	0.0
CN15	1	0.0
	2	0.0
	3	0.0
	4	0.0
CN16	1	0.0
	2	0.0
	3	0.0
	4	0.0
CN17	1	0.0
	2	0.0
	3	0.0
CN18	1	0.0
	2	0.0
	3	0.0



4.67 XLR (AUDIO-4, -5) CIRCUIT BOARD

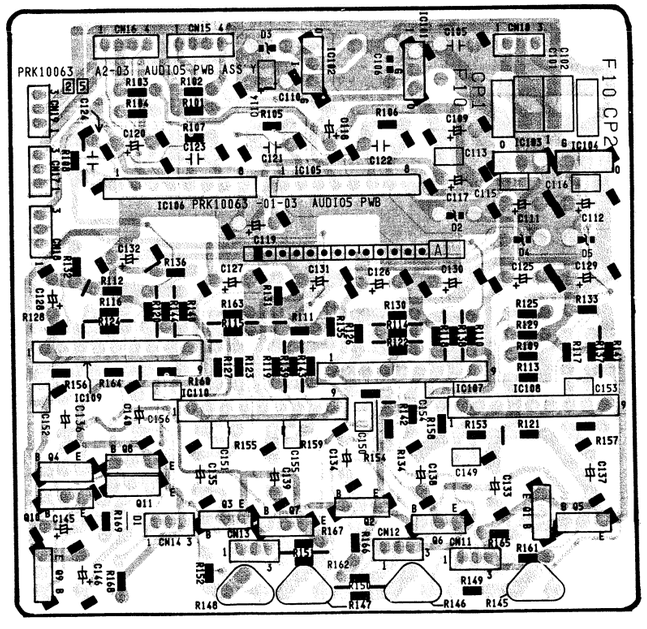
— AUDIO-4 —

(SOLDER SIDE)



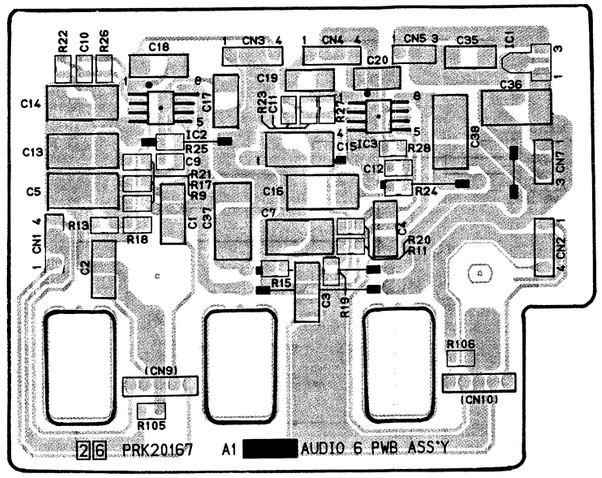
— AUDIO-5 —

(SOLDER SIDE)

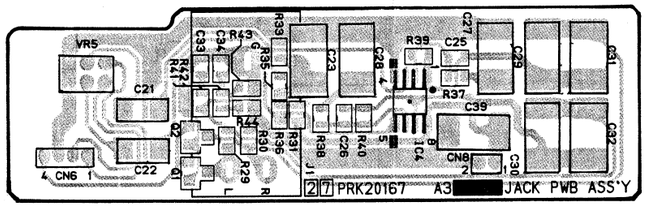


4.68 FRONT (AUDIO-6, JACK, VR) & A/C HEAD CIRCUIT BOARD

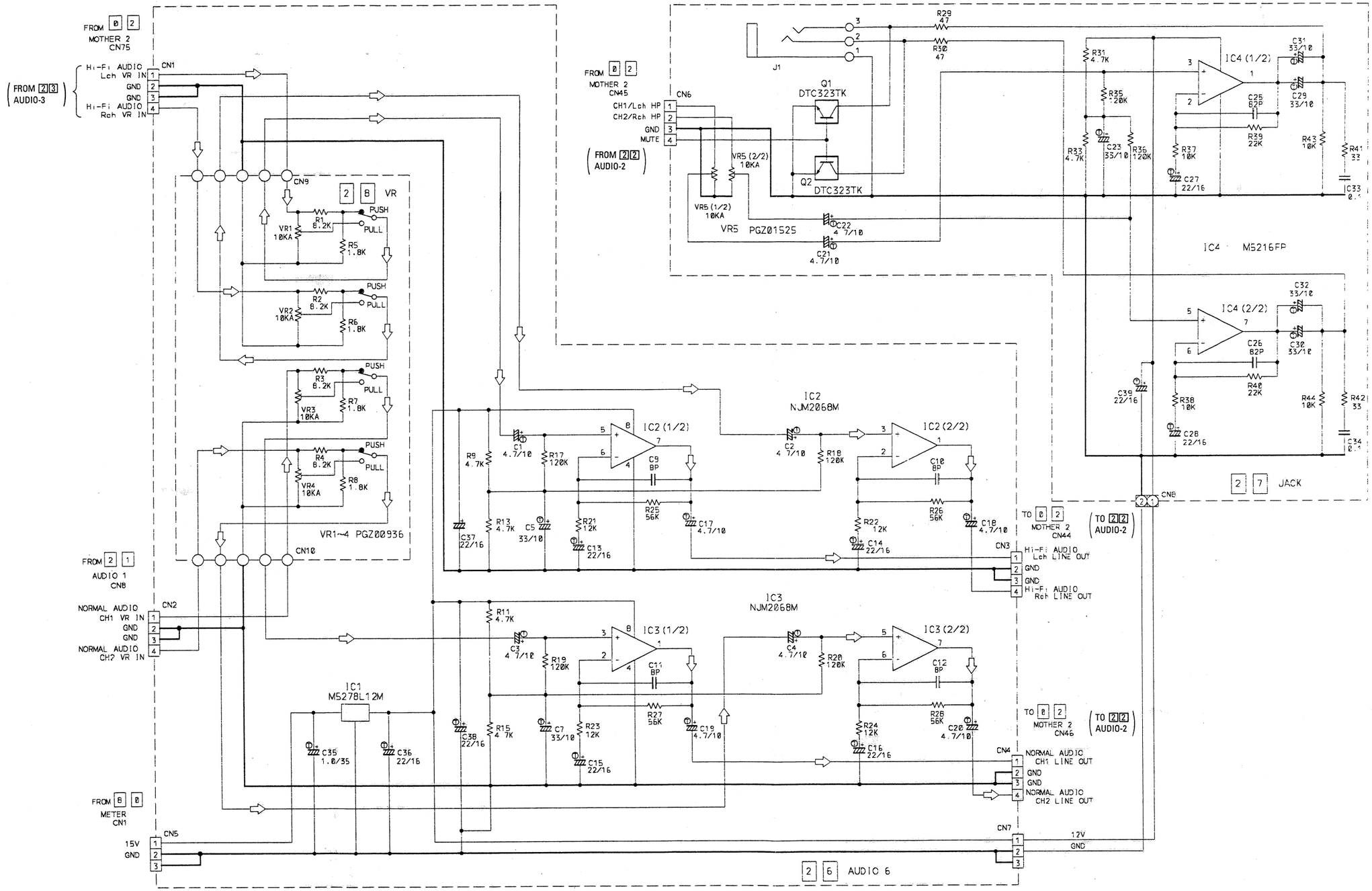
— AUDIO-6 — (SOLDER SIDE)



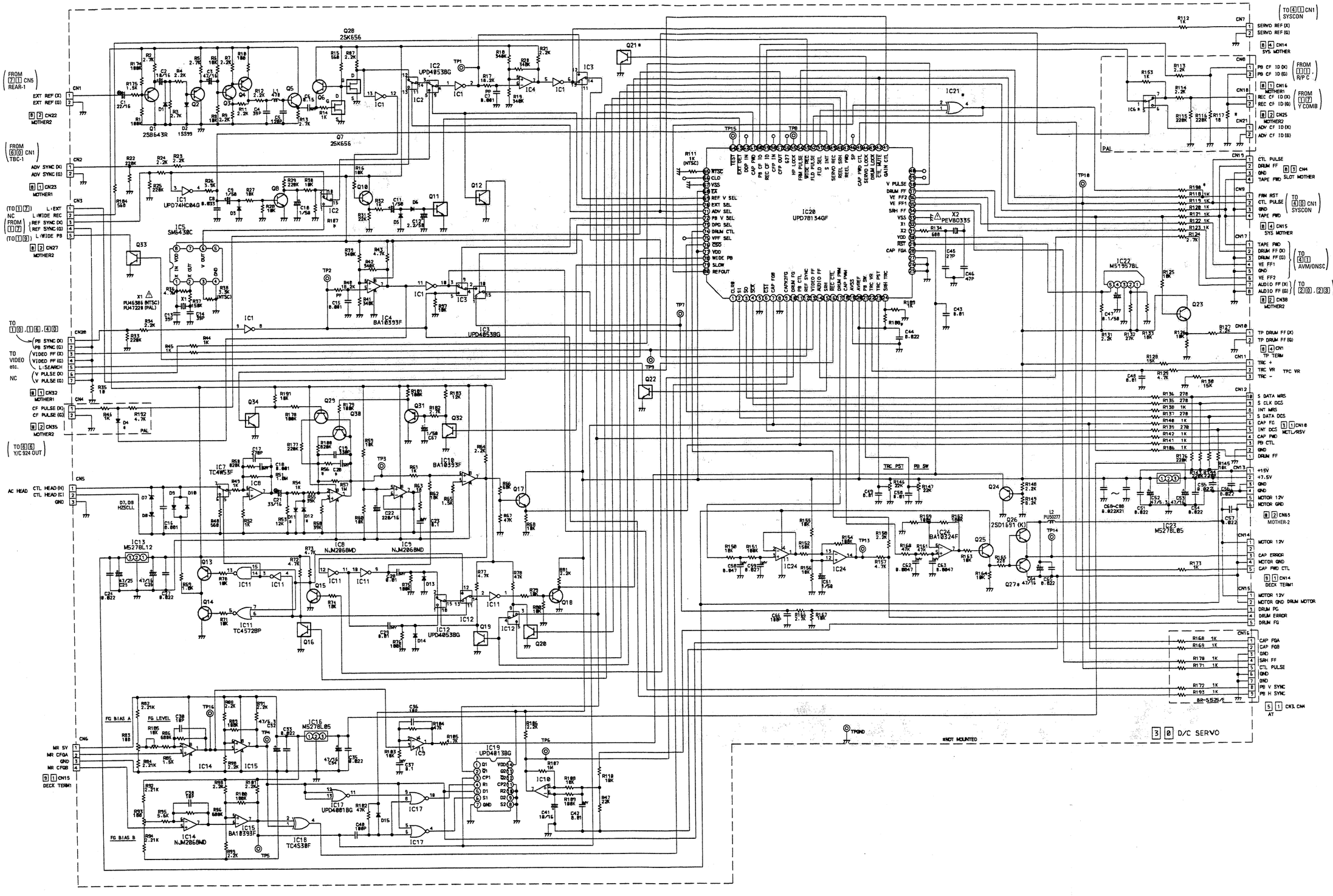
— JACK — (SOLDER SIDE)


PRK20167 A3 JACK PWB ASS'Y
IC1
IC2
IC3
IC4
SW1
SW2
SW3
SW4
SW5
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4.69 FRONT (AUDIO-6, JACK, VR) SCHEMATIC DIAGRAM

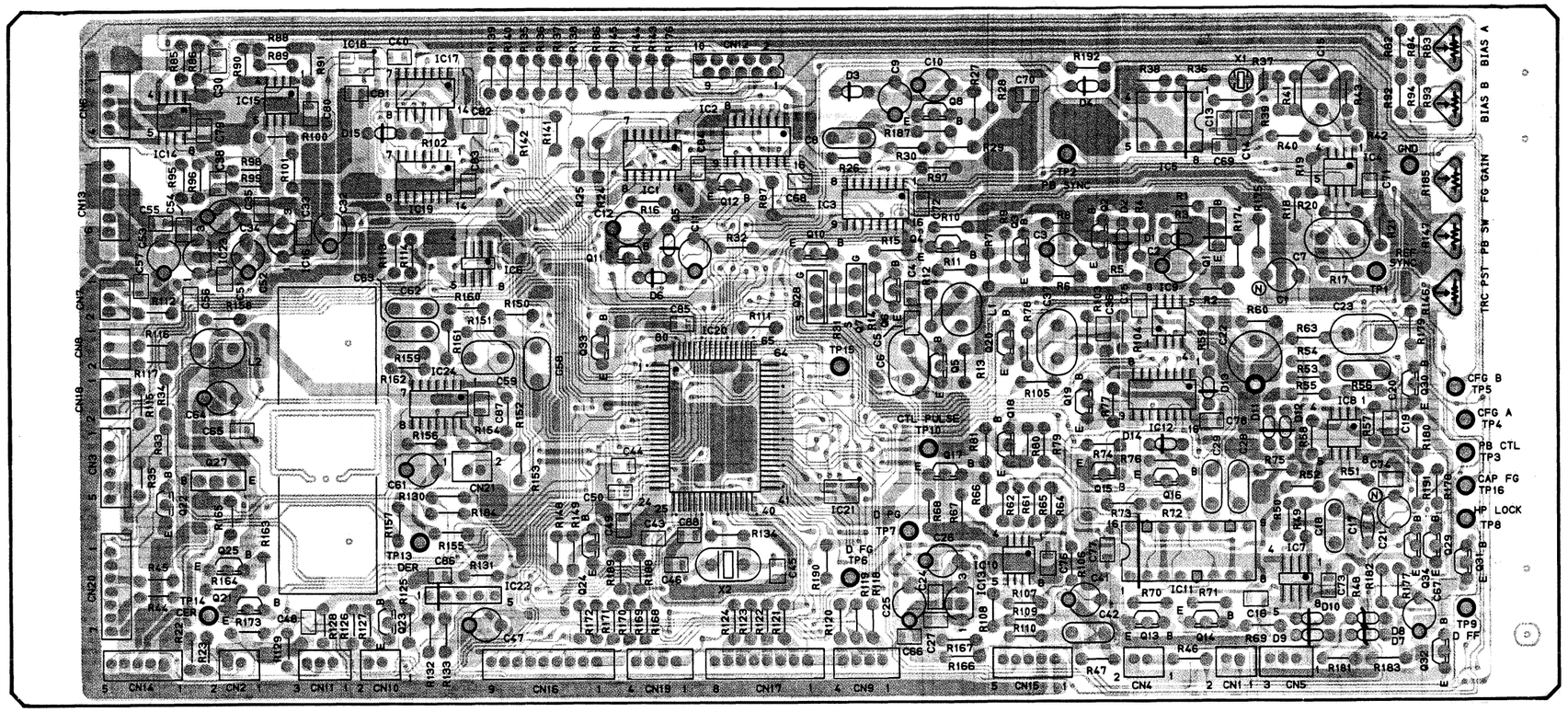


4.70 DRUM/CAPSTAN SERVO SCHEMATIC DIAGRAM



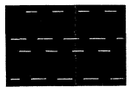
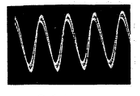
4.71 DRUM/CAPSTAN SERVO CIRCUIT BOARD

(PARTS SIDE)



(PRK10116)

— MAIN WAVEFORMS OF D/C SERVO CIRCUIT —

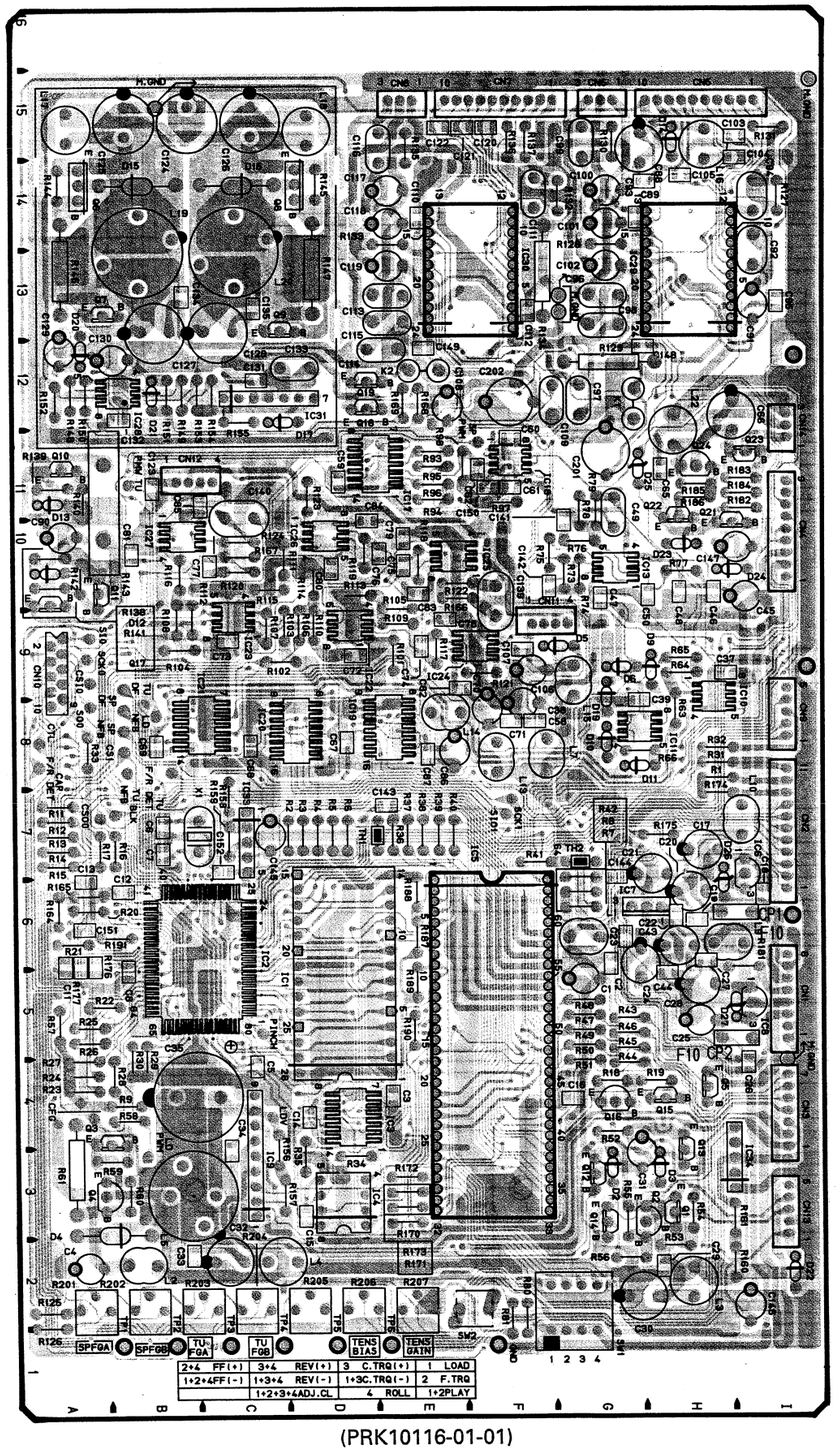
TP1	TP3	TP4, TP5	TP6, TP7	TP9	TP16
					
5.0 Vp-p/15.63 kHz	[PB] 10 Vp-p/25 Hz	UPPER: TP4 LOWER: TP5	UPPER: TP6 (800 Hz) LOWER: TP7 (25 Hz)	5.0 Vp-p/25 Hz	2.1 Vp-p [MAX]

— DC Voltage (D/C SERVO) —

SYMBOL No.		PB	SYMBOL No.		PB	SYMBOL No.		PB	SYMBOL No.		PB	SYMBOL No.		PB	SYMBOL No.		PB
IC			IC11	3	0.0	IC20	14	2.5	Q4	B	11.4	Q32	B	0.0
IC1	1	4.6		5	12.1		15	0.0		C	6.8		C	12.1
	3	0.0		9	0.0		16	0.0		E	12.0		E	0.0
	4	0.0		10	12.1		17	1.2	Q5	B	6.8	Q33	B	0.0
	5	0.0		11	0.0		18	0.0		C	12.1		C	6.6
	6	0.0		12	6.9		19	0.0		E	6.2		E	0.0
	7	0.0		13	6.9		20	0.0	Q6	B	3.3	**CONNECTOR**		
	8	4.7		14	12.1		21	0.0		C	2.8	CN1	1	0.0
	10	0.0		15	0.0		22	0.0		E	2.8		2	0.0
	11	5.0		16	12.1		23	0.0	Q7	D	3.3	CN2	1	4.6
	12	5.1	IC12	1	0.4		24	0.0		S	2.8		2	0.0
	13	5.1		2	0.4		25	0.0		S	0.0	CN3	1	0.0
	14	5.1		3	5.0		26	0.0	Q8	B	0.4		2	4.6
IC2	1	4.9		4	5.1		27	0.0		C	0.4		3	0.0
	3	4.6		5	0.0		28	0.0		E	0.7		4	9.6
	4	4.6		6	0.0		29	0.0	Q9	B	1.5		5	0.0
	5	4.6		7	0.0		30	0.0		C	0.0	CN5	1	6.1
	6	0.0		8	12.0		31	0.0		E	0.0		3	0.0
	7	0.0		9	0.4		32	0.0	Q10	B	5.1	CN6	1	5.1
	8	0.0		10	0.4		33	0.0		C	5.1		2	2.5
	10	0.0		11	12.1		34	0.0		E	4.5		3	0.0
	11	4.6		12	12.0		35	0.0	Q11	B	0.0		4	2.9
	12	4.6		13	0.4		36	0.0		C	0.0	CN7	1	0.5
	13	4.6		14	0.4		37	0.0		E	0.0		2	0.0
	14	4.6		15	0.4		38	0.0	Q12	B	5.0	CN9	1	5.0
	15	4.6		16	12.1		39	0.0		C	0.0		2	5.0
	16	5.1	IC13	1	12.1		40	0.0		E	0.0		3	0.0
IC3	1	0.0		2	0.0		41	0.0	Q13	B	12.1		4	4.9
	3	0.0		3	15.0		42	0.0		C	12.1	CN10	1	2.2
	4	0.0	IC14	1	2.6		43	0.0		E	12.1		2	0.0
	5	0.0		2	2.5		44	0.0	Q14	B	0.0	CN11	1	4.5
	6	0.0		3	0.0		45	0.0		C	5.0		3	0.6
	7	0.0		4	2.5		46	0.0		E	0.0	Q15	B	0.0
	8	4.3		5	2.7		47	0.0	Q15	B	0.0		C	12.1
	10	0.4		7	2.6		48	0.0		C	12.0		E	0.0
	11	0.0		8	5.1		49	0.0		E	0.0	Q16	B	0.0
	12	0.0	IC15	1	2.6		50	0.0	Q16	B	0.0		C	12.0
	13	0.0		2	2.5		51	0.0		C	12.0		E	0.0
	14	0.0		3	0.0		52	0.0		E	0.0	Q17	B	2.8
	15	0.0		4	2.5		53	0.0	Q17	B	2.8		C	5.1
	16	5.1		5	2.7		54	0.0		C	5.1		E	2.5
IC4	1	5.0		7	2.6		55	0.0		E	2.5	Q18	B	0.7
	3	0.0		8	5.1		56	0.0	Q18	B	0.7		C	0.0
	4	0.0	IC16	1	5.1		57	0.0		C	0.0		E	0.0
	5	0.0		3	7.6		58	0.0		E	0.0	Q19	B	5.0
	6	0.4	IC17	1	0.0		59	0.0	Q19	B	5.0		C	0.0
	7	5.0		2	0.0		60	0.0		C	0.0		E	0.0
	8	5.1		3	5.0		61	0.0		E	0.0	Q20	B	0.0
IC5	1	1.3		5	0.0		62	0.0	Q20	B	0.0		C	12.0
	3	0.0		6	2.6		63	0.0		C	12.0		E	0.0
	4	0.0		7	0.0		64	0.0		E	0.0	Q22	B	0.0
	5	0.0		8	2.6		65	0.0	Q22	B	0.0		C	0.0
	6	4.9		9	0.0		66	0.0		C	0.0		E	0.0
	7	0.0		10	2.6		67	0.0		E	0.0	CN14	1	12.3
	8	5.1		11	0.0		68	0.0	Q23	B	2.5		2	0.0
IC7	1	6.1		12	2.6		69	0.0		C	5.1		3	0.0
	2	0.0		13	0.0		70	0.0		E	5.1		4	0.4
	3	0.0		14	2.6		71	0.0	Q24	B	4.0		5	0.0
	4	0.0	IC18	1	2.6		72	0.0		C	0.0		6	2.6
	5	0.0		2	0.0		73	0.0		E	2.6	CN15	1	12.3
	6	6.1		3	2.6		74	0.0	Q25	B	3.2		2	0.0
	7	0.0		4	0.0		75	0.0		C	15.1		3	0.0
	8	12.1		5	2.6		76	0.0		E	2.6		4	0.4
IC8	1	6.1	IC19	1	0.0		77	0.0	Q26	B	2.6		5	0.0
	2	6.1		2	5.0		78	0.0		C	12.1		6	2.6
	3	6.1		3	2.6		79	0.0		E	2.0	CN17	1	4.9
	4	0.0		4	0.0		80	0.0	Q27	B	2.6		2	0.0
	5	6.1		5	0.0	**TRANSISTOR**				C	0.0		3	0.0
	6	6.1		6	0.0	Q1	B	6.5		E	2.0		4	0.4
	7	0.0		7	0.0		C	0.0	Q28	D	0.0		5	0.0
	8	0.0		8	0.0		E	7.2		S	0.0		6	2.6
IC9	1	3.0		9	0.0	Q2	B	0.1	Q29	B	7.0	CN19	1	0.6
	2	3.0		10	0.0		C	0.0		C	6.5		2	0.0
	3	2.6		11	0.0		E	0.7		E	6.5		3	0.0
	4	0.0		12	0.0	Q3	B	4.4	Q30	B	6.6		4	4.9
	5	6.1		13	0.0		C	11.3		C	6.0	CN20	1	4.7
	6	6.1		14	2.5		E	3.8		E	6.1		2	0.0
	7	6.1	IC20	1	0.0				Q31	B	12.1		3	0.0
	8	12.1		2	4.8					C	0.0		4	5.3
IC10	1	7.0		3	4.9					E	8.6		5	0.0
	2	6.1		4	0.0								6	0.0
	3	0.0		5	4.2								7	0.0
	4	2.7		6	0.0									
	5	2.6		7	4.2									
	6	12.1		8	0.0									
IC11	1	11.7		9	2.6									
	2	0.4		10	2.5									
				12	2.5									
				13	2.5									

4.72 MECHACONTROL/REEL SERVO CIRCUIT BOARD

(PARTS SIDE)



(PRK10116-01-01)

— DC Voltage (M-CTL/REEL SERVO) —

SYMBOL	No.	PB
IC		
IC1	1	4.9
	2	2.5
	3	2.2
	4	2.8
	5	2.9
	6	3.0
	7	2.5
	8	2.4
	9	2.6
	10	2.4
	11	2.4
	12	2.6
	13	2.1
	14	0.0
	15	2.0
	16	2.0
	17	1.9
	18	2.1
	19	1.8
	20	1.7
	21	2.3
	22	0.0
	23	2.0
	24	1.4
	25	2.7
	26	0.8
	27	0.5
	28	4.9
IC2	1	1.4
	2	2.2
	3	2.8
	4	2.8
	5	2.5
	6	2.5
	7	2.4
	8	2.6
	9	2.4
	10	1.8
	11	2.1
	12	1.9
	13	2.0
	14	2.0
	15	2.1
	16	2.6
	17	2.4
	18	2.4
	19	4.9
	20	4.9
	21	4.9
	22	3.8
	23	3.2
	24	4.5
	25	4.7
	26	2.5
	27	4.7
	28	3.9
	29	0.0
	30	0.0
	31	4.9
	32	4.8
	33	0.0
	34	2.4
	35	2.3
	36	4.8
	37	4.9
	38	4.7
	39	4.8
	40	3.9
	41	0.1
	42	0.1
	43	4.9
	44	2.5
	45	2.5
	46	0.3
	47	5.0
	48	1.8
	49	1.9
	50	0.9
	51	1.2
	52	0.0
	53	5.0
	54	5.0
	55	0.0
	56	1.2
	57	4.9
	58	4.9
	59	2.5

SYMBOL	No.	PB
IC2	60	2.5
	61	4.9
	62	2.6
	63	0.0
	64	0.0
	65	0.0
	66	4.7
	67	0.5
	68	0.6
	69	4.9
	70	4.9
	71	4.9
	72	4.9
	73	0.0
	74	0.0
	75	3.2
	76	0.5
	77	0.8
	78	2.5
	79	2.0
	80	2.3
IC3	1	3.1
	2	3.1
	3	1.7
	4	1.7
	5	2.3
	6	4.9
	7	0.0
	8	4.9
	9	1.4
	10	1.7
	11	1.0
	12	4.8
	13	4.8
	14	4.9
IC4	1	0.0
	2	4.9
	3	0.0
	4	4.8
	5	0.0
	6	0.0
	7	4.9
	8	4.9
IC5	1	4.8
	2	0.1
	3	4.8
	4	0.0
	5	0.5
	6	4.9
	7	2.5
	8	2.4
	9	4.8
	10	4.8
	11	4.9
	12	4.8
	13	0.0
	14	4.9
	15	0.0
	16	0.0
	17	0.0
	18	0.0
	19	0.0
	20	0.0
	21	0.0
	22	0.0
	23	4.9
	24	0.0
	25	4.9
	26	0.0
	27	4.8
	28	4.8
	29	4.8
	30	4.8
	31	4.8
	32	2.4
	33	0.0
	34	0.0
	35	0.0
	36	4.9
	37	0.0
	38	4.9
	39	0.0
	40	4.9
	41	0.0
	42	4.9
	43	4.9
	44	4.8

SYMBOL	No.	PB
IC5	45	0.0
	46	0.0
	47	5.0
	48	4.8
	49	4.8
	50	0.0
	51	3.6
	52	1.8
	53	2.1
	54	1.9
	55	2.0
	56	2.0
	57	2.1
	58	2.6
	59	2.4
	60	0.0
	61	4.7
	62	0.0
	63	4.8
	64	4.9
IC6	1	0.0
	2	-14.0
	3	-12.0
IC7	1	7.6
	2	0.0
	3	5.0
IC8	1	12.2
	2	0.0
	3	14.2
IC9	1	0.0
	2	0.0
	3	0.0
	4	0.0
	5	0.0
	6	0.0
	7	0.0
	8	17.8
	9	17.8
IC10	1	6.4
	2	3.3
	3	3.3
	4	0.0
	5	0.5
	6	0.5
	7	10.9
	8	12.1
IC11	1	0.1
	2	0.1
	3	4.5
	4	0.0
	5	0.6
	6	0.6
	7	0.6
	8	12.1
IC12	1	1.0
	2	0.1
	3	0.1
	4	0.0
	5	0.2
	6	1.8
	7	1.8
	8	12.1
IC13	1	0.2
	2	1.7
	3	1.7
	4	-11.9
	5	0.2
	6	0.2
	7	1.9
	8	12.1
IC17	1	0.2
	2	0.2
	3	0.1
	4	0.1
	5	4.9
	6	0.0
	7	0.0
	8	0.0
	9	0.0
	10	0.0
	11	0.0

SYMBOL	No.	PB
IC17	12	0.0
	13	4.9
	14	5.0
IC18	1	0.2
	2	0.2
	3	0.2
	4	0.2
	5	0.1
	6	0.1
	7	0.1
	8	5.0
IC19	1	0.1
	2	0.0
	3	1.1
	4	0.0
	5	0.0
	6	0.0
	7	0.0
	8	0.0
	9	0.0
	10	0.0
	11	4.9
	12	1.1
	13	—
	14	—
	15	0.0
	16	4.8
IC20	1	0.0
	2	0.0
	3	1.5
	4	0.0
	5	0.0
	6	0.0
	7	0.0
	8	0.0
	9	0.0
	10	0.0
	11	4.9
	12	—
	13	—
	14	—
	15	0.0
	16	4.8
IC21	1	4.8
	2	0.0
	3	0.0
	4	0.0
	5	0.0
	6	0.0
	7	0.0
	8	0.0
	9	0.0
	10	0.0
	11	0.0
	12	0.0
	13	4.8
	14	4.8
IC22	1	0.3
	2	2.5
	3	2.5
	4	0.0
	5	2.5
	6	2.5
	7	2.5
	8	4.9
IC23	1	2.3
	2	2.4
	3	2.5
	4	0.0
	5	2.5
	6	2.5
	7	2.4
	8	4.9
IC24	1	2.5
	2	2.5
	3	2.5
	4	0.0
	5	2.5
	6	2.5
	7	2.4
	8	4.9

SYMBOL	No.	PB
IC25	1	2.5
	2	2.5
	3	2.5
	4	0.0
	5	2.5
	6	2.5
	7	2.5
	8	4.9
IC26	1	2.5
	2	2.5
	3	2.5
	4	0.0
	5	2.5
	6	2.5
	7	2.5
	8	4.9
IC27	1	2.5
	2	2.5
	3	2.5
	4	0.0
	5	2.5
	6	2.5
	7	2.5
	8	4.9
IC28	1	0.3
	2	2.4
	3	1.8
	4	0.0
	5	1.6
	6	2.4
	7	0.3
	8	4.8
IC29	1	1.2
	2	0.1
	3	1.2
	4	0.7
	5	2.2
	6	2.2
	7	2.2
	8	2.2
	9	2.2
	10	2.2
	11	1.4
	12	4.8
	13	2.0
	14	0.1
	15	0.8
	16	1.3
	17	0.0
	18	0.0
	19	0.0
	20	0.0
	21	0.1
	22	0.1
	23	1.2
	24	3.7
IC30	1	0.2
	2	0.3
	3	0.3
	4	1.8
	5	2.2
	6	2.2
	7	2.2
	8	2.2
	9	2.2
	10	2.2
	11	2.2
	12	1.8
	13	4.8
	14	2.8
	15	4.9
	16	0.3
	17	0.8
	18	1.3
	19	0.0
	20	0.0
	21	0.7
	22	0.3
	23	0.3
	24	5.0

SYMBOL	No.	PB
IC31	1	2.4
	2	-0.1
	3	4.8
	4	0.0
	5	2.4
	6	4.0
	7	4.8
IC33	1	4.9
	2	1.4
	3	0.0
	4	1.3
	5	4.8
IC34	1	17.8
	2	1.6
	3	0.0
	4	1.3
	5	4.8
TRANSISTOR		
Q1	B	17.8
	C	1.6
	E	17.8
Q2	B	17.0
	C	17.7
	E	17.8
Q3	B	0.7
	C	0.0
	E	0.0
Q4	B	17.0
	C	17.8
	E	17.8
Q5	B	7.6
	C	0.0
	E	0.0
Q6	B	17.6
	C	9.7
	E	17.7
Q7	B	0.3
	C	16.3
	E	0.0
Q8	B	17.5
	C	5.8
	E	17.7
Q9	B	0.4
	C	13.7
	E	0.0
Q10	B	0.0
	C	9.1
	E	0.0
Q11	B	0.7
	C	0.1
	E	0.0
Q12	B	0.0
	C	4.8
	E	4.9
Q13	B	0.0
	C	17.7
	E	0.0
Q14	B	4.8
	C	0.1
	E	0.0
Q15	B	0.0
	C	17.7
	E	0.0
Q16	B	17.7
	C	0.0
	E	17.7
Q17	B	0.0
	C	4.7
	E	4.8

SYMBOL	No.	PB
Q18	B	3.7
	C	1.1
	E	4.8
Q19	B	5.8
	C	1.8
	E	4.8
Q21	B	0.0
	C	17.7
	E	0.0
Q22	B	0.0
	C	17.7
	E	0.0
Q23	B	17.7
	C	0.0
	E	17.7
Q24	B	17.7
	C	0.0
	E	17.7
CONNECTOR		
CN1	1	17.8
	2	0.0
	3	15.0
	4	0.0
	5	7.6
	6	0.0
	7	-14.6
	8	0.0
CN2	1	0.3
	2	0.5
	3	0.0
	4	4.8
	5	0.1
	6	4.9
	7	4.8
	8	0.0
	9	1.1
	10	0.0
	11	
CN3	1	0.0
	2	0.0
	3	0.0
	4	0.0
	5	4.8
	6	0.0
	7	0.0
CN4	1	12.1
	2	0.0
	3	-11.9
	4	3.1
	5	0.0
	6	2.5
	7	11.4
	8	4.9
	9	10.8
CN5	1	2.8
	2	1.6
	3	2.2
	4	2.2
	5	2.2
	6	2.2
	7	2.2
	8	2.2
	9	17.7
	10	9.1
CN6	1	1.1
	2	1.0
	3	1.0

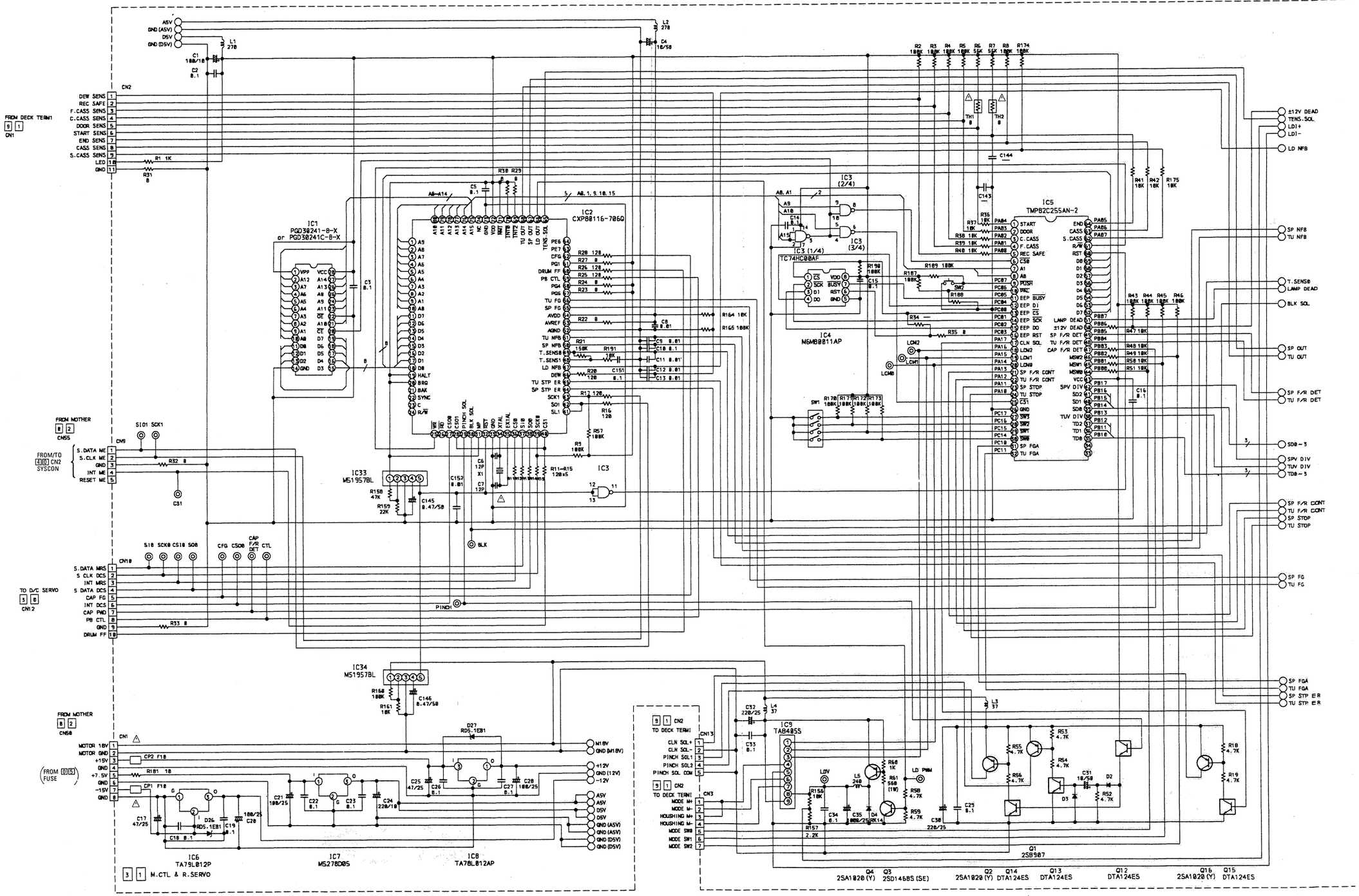
SYMBOL	No.	PB
CN7	1	4.8
	2	3.6
	3	2.9
	4	1.6
	5	2.2
	6	2.2
	7	2.2
	8	2.2
	9	2.2
	10	2.2
CN8	1	4.4
	2	4.2
	3	4.4
CN9	1	0.5
	2	4.9
	3	0.0
	4	3.9
	5	5.0
CN10	1	4.9
	2	4.9
	3	4.8
	4	4.7
	5	2.6
	6	4.7
	7	5.0
	8	2.4
	9	0.0
	10	0.0
CN11	1	5.0
	2	2.5
	3	0.0
	4	2.5
CN12	1	5.0
	2	5.0
	3	5.0
	4	2.5
CN13	1	0.0
	2	0.0
	3	1.6
	4	17.7
	5	0.0
CN14	1	0.0
	2	0.0
	3	0.0

— MAIN WAVEFORMS OF M-CTL/REEL CIRCUIT —

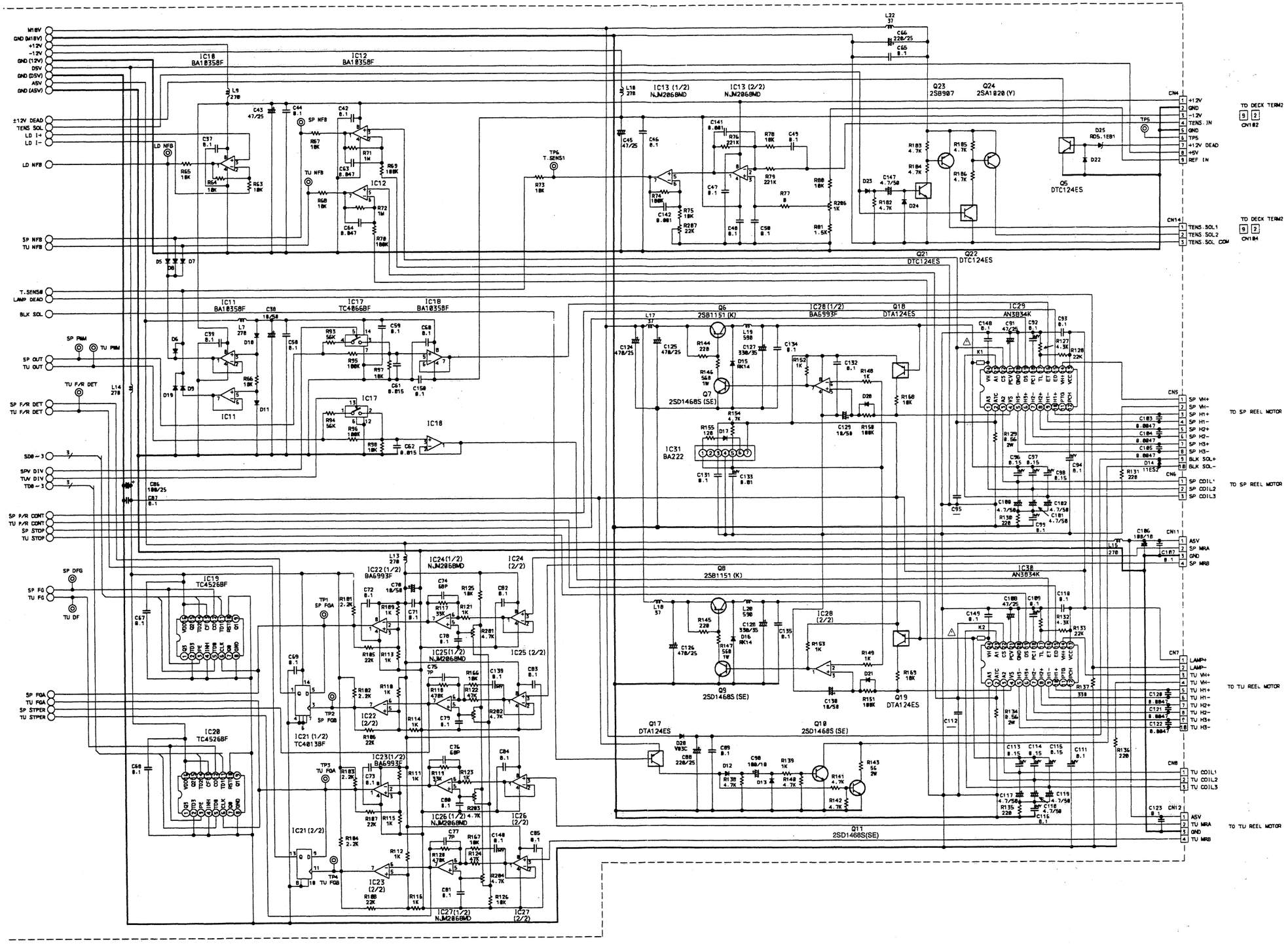
TP1, TP2	TP3, TP4
	
UPPER: TP1 LOWER: TP2	UPPER: TP3 LOWER TP4

4.73 MECHACONTROL/REEL SERVO SCHEMATIC DIAGRAM

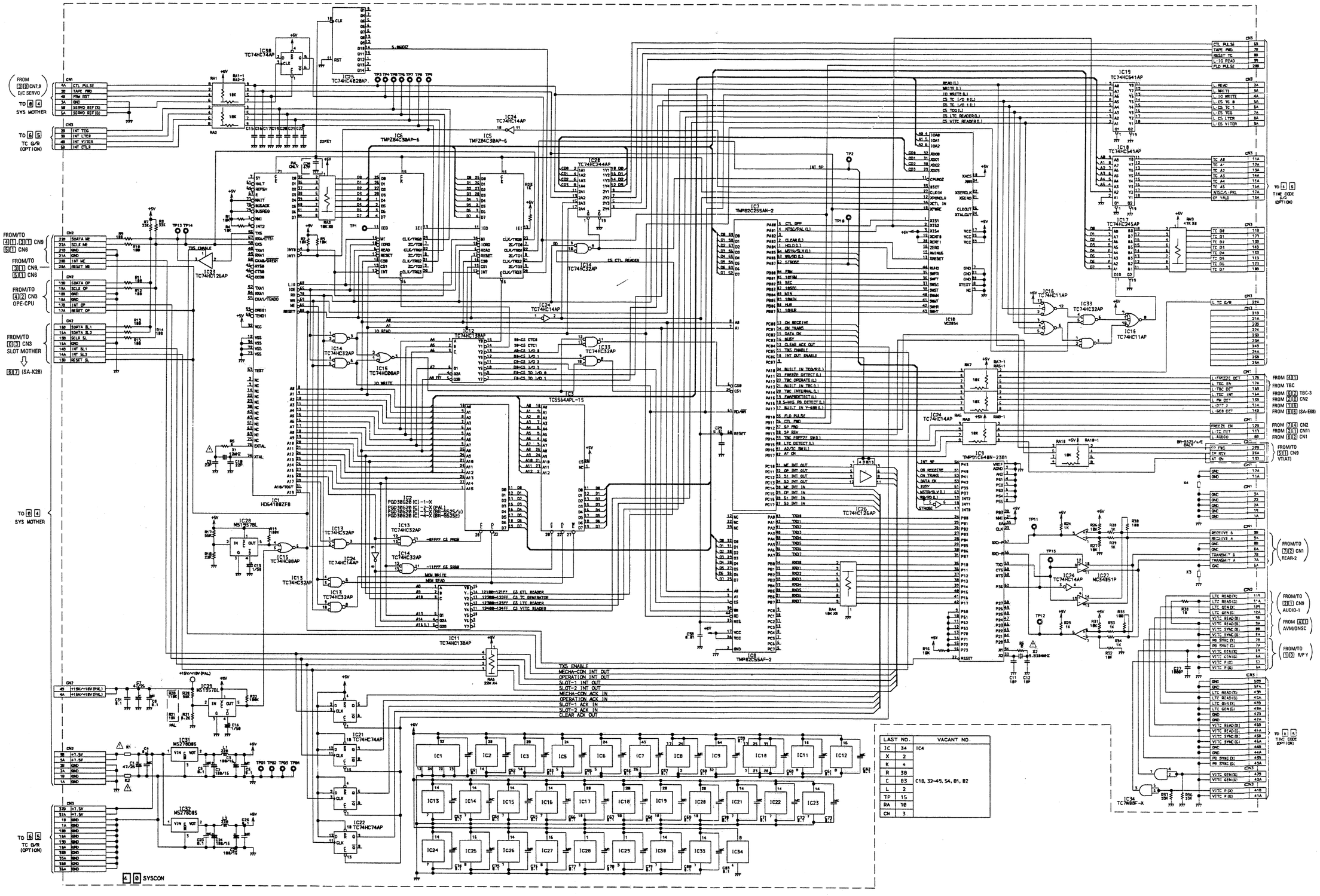
— DIAGRAM (1/2) —



— DIAGRAM (2/2) —

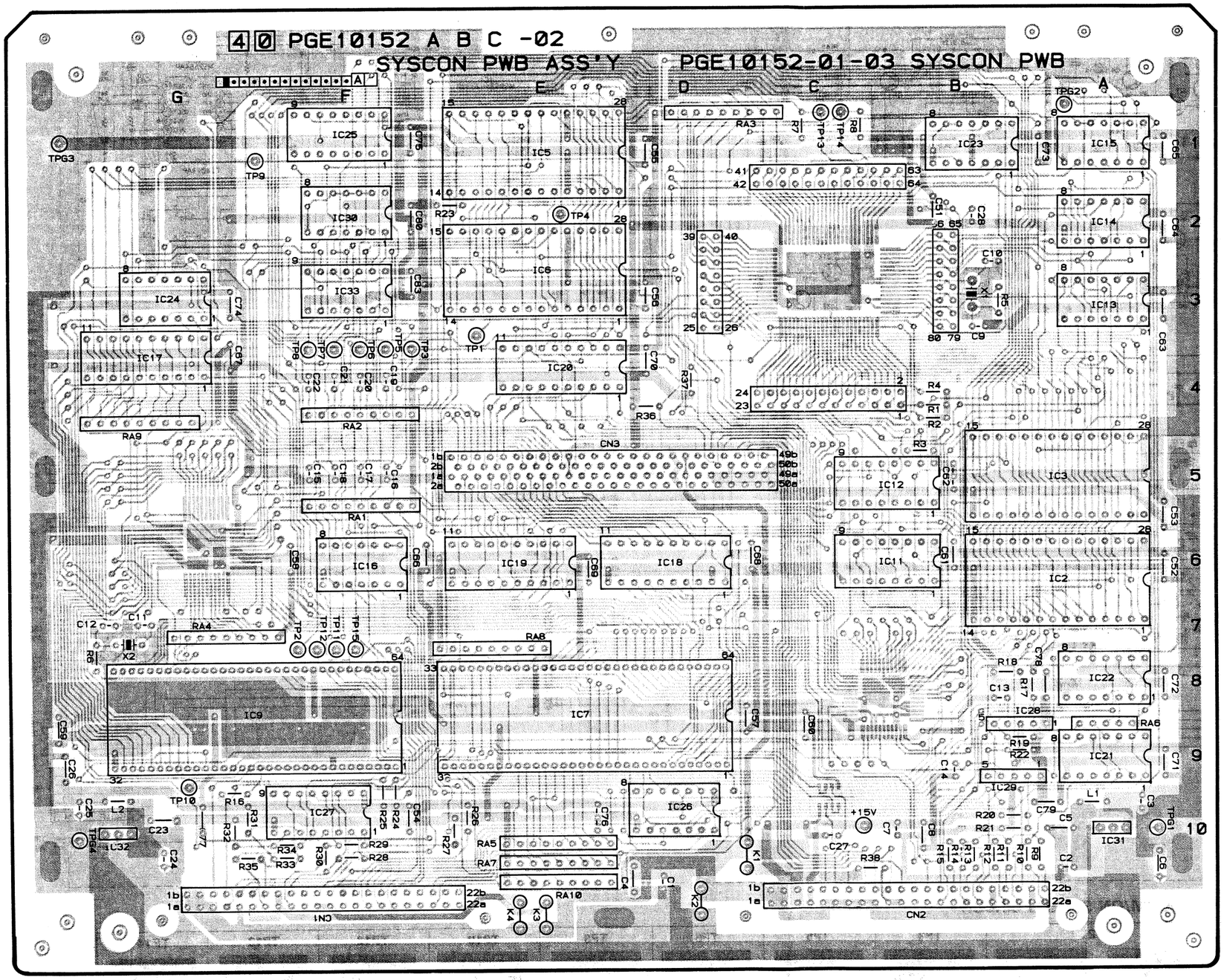

M18V
GND (M18V)
+12V
-12V
GND (12V)
D5V
GND (D5V)
A5V
GND (A5V)
±12V DEAD
TENS. SOL
LD I+
LD I-
LD NFB
SP NFB
TU NFB
T.SENSE
LAMP DEAD
BLK SOL
SP PWM
TU PWM
SP OUT
TU OUT
TU F/R DET
SP F/R DET
TU F/R DET
SDO~3
SPV DIV
TUV DIV
TDO~3
SP P/R CONT
TU P/R CONT
SP STOP
TU STOP
SP DFG
SP FG
TU FG
TU DF
SP FGA
TU FGA
SP STPER
TU STPER
IC18 BA18358F
IC12 BA18358F
IC11 BA18358F
IC17 TC4066BF
IC18 BA18358F
IC19 TC4528BF
IC20 TC4528BF
IC21 (1/2) TC4013BF
IC22 (1/2) BA6993F
IC23 (1/2) BA6993F
IC24 (1/2) NJM2068MD
IC25 (1/2) NJM2068MD
IC26 (1/2) NJM2068MD
IC27 (1/2) NJM2068MD
IC13 (1/2) NJM2068MD
IC13 (2/2) NJM2068MD
IC28 (1/2) BA6993F
IC29 AN3834K
IC30 AN3834K
IC31 BA222
Q23 2SB907
Q24 2SA1020 (Y)
Q5 DTC124ES
Q21 DTC124ES
Q22 DTC124ES
Q6 2SB1151 (K)
Q7 2SD1468S (SE)
Q8 2SB1151 (K)
Q9 2SD1468S (SE)
Q10 2SD1468S (SE)
Q11 2SD1468S(SE)
Q17 DTA124ES
Q18 DTA124ES
Q19 DTA124ES
TP1 SP FGA
TP2 SP FGB
TP3 TU FGA
TP4 TU FGB
TP5
TP6 T.SENS1
CN4 +12V GND -12V TENS. IN GND TP5 +12V DEAD +5V REF IN
TO DECK TERM2 CN102
CN14 TENS. SOL1 TENS. SOL2 TENS. SOL COM
TO DECK TERM2 CN104
CN5 SP VH+ SP VH- SP H1+ SP H1- SP H2+ SP H2- SP H3+ SP H3- BLK SOL+ BLK SOL-
TO SP REEL MOTOR
CN6 SP COIL1' SP COIL2 SP COIL3
TO SP REEL MOTOR
CN11 A5V SP MRA GND SP MRB
CN7 LAMP+ LAMP- TU VH+ TU VH- TU H1+ TU H1- TU H2+ TU H2- TU H3+ TU H3-
TO TU REEL MOTOR
CN8 TU COIL1 TU COIL2 TU COIL3
CN12 A5V TU MRA GND TU MRB
TO TU REEL MOTOR
4-97
4-97

4.74 SYSCON SCHEMATIC DIAGRAM


IC1 HD6418BZF8
IC2 PQD3B528 (C)-1-X
PQD3B529 (C)-2-X (PAL)
PQD3B528 (C)-3-X (BR-5525/μ)
PQD3B528 (C)-4-X (BR-5525E)
IC3 TC5564APL-15
IC4 TC74HC14AP
IC5 TMPZ84C38AP-6
IC6 TMPZ84C38AP-6
IC7 TMP82C255AN-2
IC8 TMP82C55AF-2
IC9 TMP91C640N-2381
IC10 TC74HC4094AP
IC11 TC74HC138AP
IC12 TC74HC138AP
IC13 TC74HC32AP
IC14 TC74HC32AP
IC15 TC74HC08AP
IC16 TC74HC11AP
IC17 TC74HC245AP
IC18 VC2854
IC19 TC74HC541AP
IC20 TC74HC541AP
IC21 TC74HC74AP
IC22 TC74HC74AP
IC23 TC74HC74AP
IC24 TC74HC14AP
IC25 TC74HC126AP
IC26 TC74HC4482AP
IC27 TC74HC126AP
IC28 TC74HC244AP
IC29 M51957BL
IC30 M51957BL
IC31 M5278085
IC32 M5278085
IC33 TC74HC32AP
IC34 TC7W08F-X
IC35 TC74HC74AP
IC36 TC74HC74AP
IC37 TC74HC14AP
IC38 TC74HC74AP
IC39 TC74HC14AP
IC40 TC74HC14AP
IC41 TC74HC14AP
IC42 TC74HC14AP
IC43 TC74HC14AP
IC44 TC74HC14AP
IC45 TC74HC14AP
IC46 TC74HC14AP
IC47 TC74HC14AP
IC48 TC74HC14AP
IC49 TC74HC14AP
IC50 TC74HC14AP
IC51 TC74HC14AP
IC52 TC74HC14AP
IC53 TC74HC14AP
IC54 TC74HC14AP
IC55 TC74HC14AP
IC56 TC74HC14AP
IC57 TC74HC14AP
IC58 TC74HC14AP

4.75 SYSCON CIRCUIT BOARD

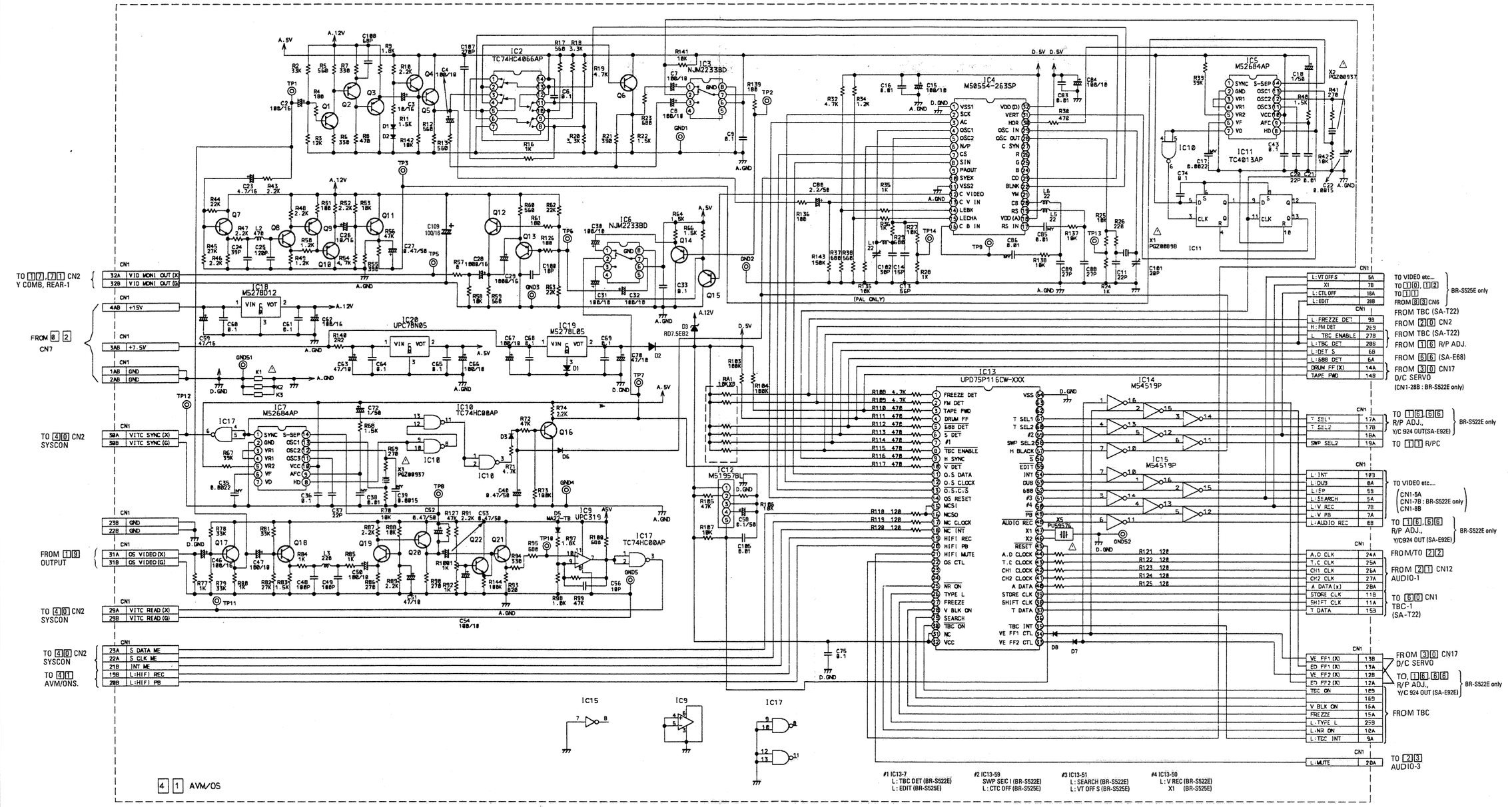
(SOLDER SIDE)



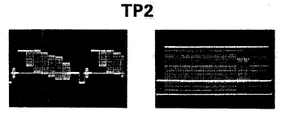
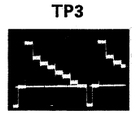
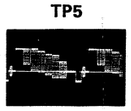
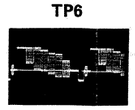
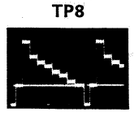
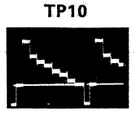
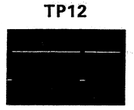
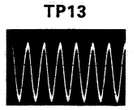
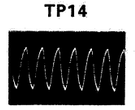
— DC Voltage (SYSCON) —

SYMBOL No.		PB
CONNECTOR		
CN1	4A	0.6
	3B	4.9
	4B	5.0
	3A	0.0
	5B	0.5
	5A	0.0
	17B	5.0
	17A	0.4
	16B	0.0
	16A	0.0
	15B	5.0
	15A	5.1
	14B	0.0
	12B	5.0
	11B	0.0
	6B	0.0
	12A	0.0
	11A	0.0
	3A	0.0
	2B	0.0
	2A	0.0
	1B	0.0
	1A	0.0
	5B	0.5
	5A	0.0
	8B	0.0
	8A	0.0
	7B	3.3
	7A	0.3
	6A	0.0
CN2	22B	0.1
	22A	4.9
	21B	0.0
	21A	0.0
	20B	4.0
	20A	5.0
	19B	0.2
	19A	4.9
	18B	0.0
	18A	0.0
	17B	4.0
	17A	5.0
	16B	0.1
	16A	0.1
	15B	4.9
	15A	0.0
	14B	0.0
	14A	5.0
	13B	5.0
	4B	15.0
	4A	15.0
	3B	7.6
	3A	7.6
	2B	0.0
	2A	0.0
	1B	0.0
	1A	0.0
	11B	0.0
	11A	0.0
	10B	5.8
	10A	0.0
	9B	1.9
	9A	0.7
	8B	4.7
	8A	0.0
	7B	4.7
	7A	0.0
	6B	0.0
	6A	0.0
	5B	0.0
	5A	0.0

4.76 AV MICOM/ONSCREEN SCHEMATIC DIAGRAM

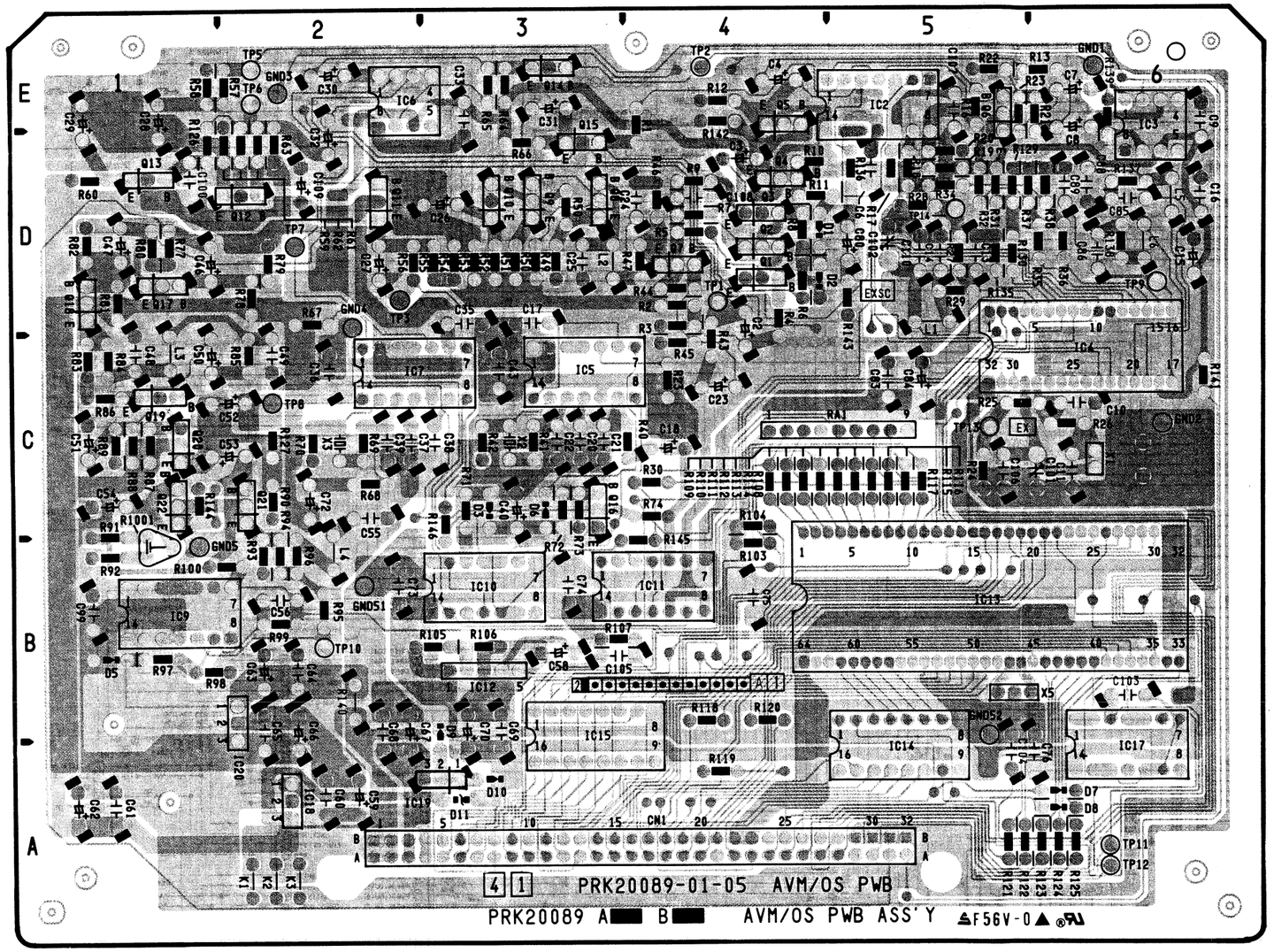


— MAIN WAVEFORMS OF AV MICOM/ON SCREEN CIRCUIT —

TP1	TP2	TP3	TP5	TP6	TP8	TP10	TP12	TP13	TP14
									
1.0 VP-P	2.1 Vp-p	1.5 Vp-p	2.0 Vp-p	2.0 Vp-p	0.8 Vp-p	0.8 Vp-p	5.0 Vp-p/15.63 kHz	240 mVp-p 17.73446 MHz	350 mVp-p/7.0 MHz
— H-rate — — V-rate —	— H-rate — — V-rate —								

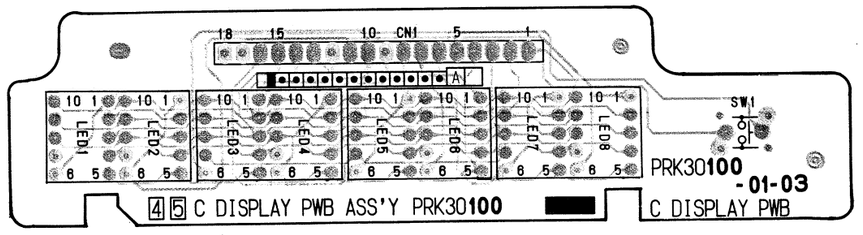
4.77 AV MICOM/ONSCREEN & COUNTER DISPLAY CIRCUIT BOARDS

— AV MICOM/ONSCREEN —



— COUNTER DISPLAY —

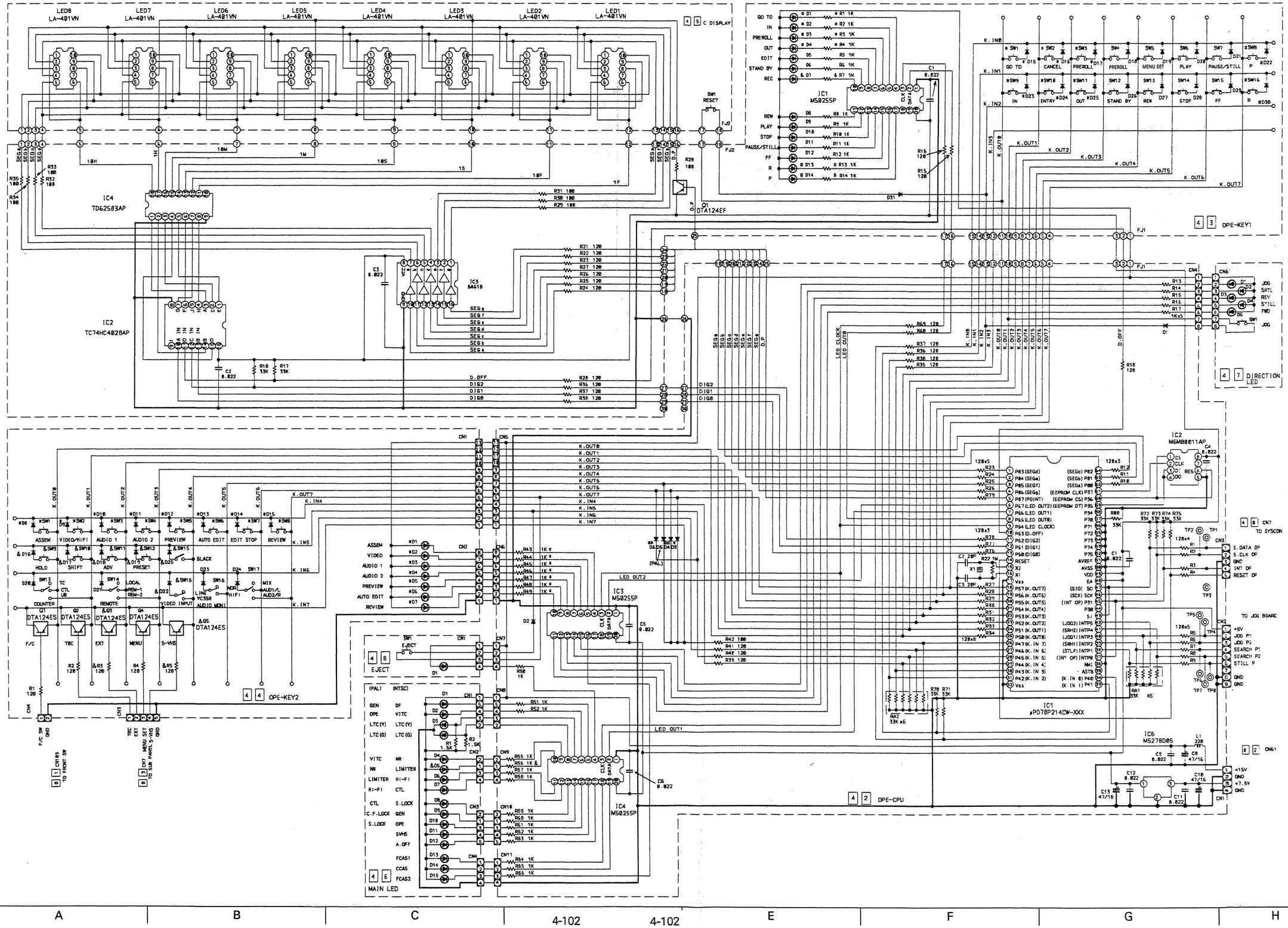
(SOLDER SIDE)



— DC Voltage (AV MICOM/ONSCREEN) —

SYMBOL No.		PB
IC		
IC2	1	2.2
	2	2.5
	3	2.5
	4	2.5
	5	4.7
	6	0.3
	7	0.0
	8	2.2
	9	5.0
	10	4.6
	11	0.0
	12	0.5
	13	5.1
	14	5.1
IC3	1	3.1
	2	0.9
	3	3.1
	4	0.0
	5	0.0
	6	5.1
	7	2.3
	8	0.0
IC4	1	0.0
	2	3.9
	3	5.1
	4	2.4
	5	2.5
	6	5.0
	7	1.2
	8	3.7
	9	0.8
	10	5.0
	11	0.0
	12	1.0
	13	1.0
	14	0.7
	15	1.9
	16	0.7
	17	0.9
	18	5.1
	19	0.1
	20	0.0
	21	0.0
	22	0.5
	23	0.3
	24	0.1
	25	0.2
	26	0.1
	27	4.6
	28	2.0
	29	2.1
	30	4.1
	31	5.0
	32	5.1
IC5	1	1.1
	2	0.0
	3	1.1
	4	1.1
	5	3.4
	6	0.3
	7	4.3
	8	4.1
	9	2.7
	10	5.1
	11	2.2
	12	3.0
	13	3.5
	14	
IC6	1	3.1
	2	0.1
	3	3.1
	4	0.0
	5	0.0
	6	5.1
	7	2.3
	8	0.0
IC7	1	1.1
	2	0.0
	3	1.1
	4	1.1
	5	3.4
	6	0.3
	7	4.3
IC7	8	4.0
	9	2.7
	10	5.1
	11	2.1
	12	2.2
	13	3.0
	14	3.3
IC9	1	0.0
	2	0.0
	3	0.0
	4	0.0
	5	0.0
	6	0.0
	7	3.5
	8	0.0
	9	1.25
	10	1.2
	11	5.1
	12	0.0
	13	0.0
	14	0.0
IC10	1	4.8
	2	4.8
	3	0.3
	4	4.3
	5	4.3
	6	0.2
	7	0.0
	8	0.4
	9	4.0
	10	4.0
	11	4.8
	12	0.4
	13	1.1
	14	5.1
IC11	1	0.0
	2	5.1
	3	0.2
	4	0.0
	5	5.1
	6	0.0
	7	0.0
	8	0.0
	9	0.0
	10	0.0
	11	4.1
	12	5.1
	13	0.0
	14	5.1
IC12	1	5.1
	2	1.4
	3	0.0
	4	1.3
	5	5.1
IC13	1	5.0
	2	5.1
	3	5.0
	4	5.1
	5	0.3
	6	5.2
	7	0.3
	8	4.2
	9	4.1
	10	0.3
	11	3.7
	12	3.9
	13	1.2
	14	5.1
	15	0.4
	16	0.4
	17	5.0
	18	4.1
	19	9.7
	20	12.0
	21	0.7
	22	0.9
	23	0.6
	24	0.6
	25	0.7
	26	0.9
	27	5.1
	28	0.6
	29	0.6
	30	0.9
	31	5.1
IC13	32	5.1
	33	0.9
	34	0.9
	35	0.2
	36	0.9
	37	5.1
	38	5.1
	39	0.9
	40	0.9
	41	0.9
	42	0.9
	43	0.9
	44	0.9
	45	5.1
	46	3.0
	47	2.8
	48	0.9
	49	0.9
	50	0.9
	51	0.9
	52	5.1
	53	0.9
	54	0.9
	55	0.9
	56	0.9
	57	0.9
	58	0.9
	59	5.1
	60	0.9
	61	0.9
	62	0.9
	63	0.9
	64	0.9
IC14	1	0.9
	2	0.9
	3	0.9
	4	0.9
	5	5.1
	6	0.9
	7	0.9
	8	0.0
	9	0.0
	10	5.0
	11	4.6
	12	4.3
	13	4.6
	14	4.6
	15	0.0
	16	0.0
IC15	1	0.9
	2	5.1
	3	0.9
	4	0.9
	5	0.9
	6	0.9
	7	0.9
	8	0.0
	9	0.0
	10	9.8
	11	0.0
	12	4.9
	13	4.9
	14	4.7
	15	0.7
	16	4.5
IC17	1	3.4
	2	3.4
	3	1.8
	4	0.0
	5	1.1
	6	4.7
	7	0.0
	8	5.1
	9	5.1
	10	0.9
	11	5.1
	12	0.0
	13	0.9
	14	5.1
IC18	1	15.1
	2	0.0
	3	12.0
IC19	1	5.1
	2	0.0
	3	7.4
IC20	1	7.2
	2	0.0
	3	5.1
TRANSISTOR		
Q1	B	1.9
	C	8.2
	E	2.3
Q2	B	8.2
	C	4.6
	E	8.9
Q3	B	4.6
	C	0.0
	E	5.2
Q4	B	2.8
	C	5.1
	E	3.2
Q5	B	3.2
	C	5.1
	E	2.5
Q6	B	2.5
	C	5.1
	E	1.9
Q7	B	6.4
	C	12.0
	E	5.8
Q8	B	5.8
	C	11.0
	E	5.2
Q9	B	11.0
	C	9.6
	E	11.7
Q10	B	9.6
	C	0.0
	E	10.2
Q11	B	2.5
	C	12.0
	E	1.8
Q12	B	6.0
	C	12.0
	E	5.3
Q13	B	6.0
	C	0.0
	E	6.7
Q14	B	2.3
	C	0.0
	E	3.0
Q15	B	1.0
	C	0.0
	E	1.7
Q16	B	0.7
	C	0.1
	E	0.0
Q17	B	2.5
	C	5.1
	E	1.8
Q18	B	2.3
	C	5.1
	E	1.6
Q19	B	1.0
	C	2.7
	E	0.3
Q20	B	2.7
	C	5.1
	E	2.1
Q21	B	1.8
	C	5.1
	E	1.2
CONNECTOR		
CN1	32A	0.0
	32B	0.0
	4AB	15.1
	3AB	7.4
	1AB	0.0
	2AB	0.0
	30A	4.7
	30B	0.0
	23B	0.0
	22B	0.0
	31A	0.0
	31B	0.0
	29A	1.8
	29B	0.0
	23A	0.3
	22A	4.9
	21A	4.1
	19A	9.7
	20B	12.0
	9B	5.0
	26B	5.1
	27B	4.2
	28B	0.0
	6B	5.2
	6A	0.0
	14A	5.1
	14B	5.0
	25B	0.9
	24B	0.0
	17A	4.6
	17B	4.6
	18A	0.3
	19A	4.6
	10A	0.7
	8A	4.5
	5B	0.7
	5A	4.7
	7B	4.9
	7A	4.9
	8B	4.7
	24A	0.9
	25A	0.9
	26A	0.9
	28A	0.9
	11B	0.9
	11A	5.1
	15B	5.1
	13B	5.1
	13A	5.1
	12B	0.0
	12A	5.1
	18B	0.9
	16B	0.6
	16A	0.9
	15A	5.1
	25B	0.9
	10A	0.6
	9A	0.2
	20A	0.7

4.78 OPERATION SCHEMATIC DIAGRAM



4.79 OPERATION (CPU, KEY-1, KEY-2, JOG LED), MAIN LED & EJECT SWITCH CIRCUIT BOARD

— DC Voltage (OPERATION CPU) —

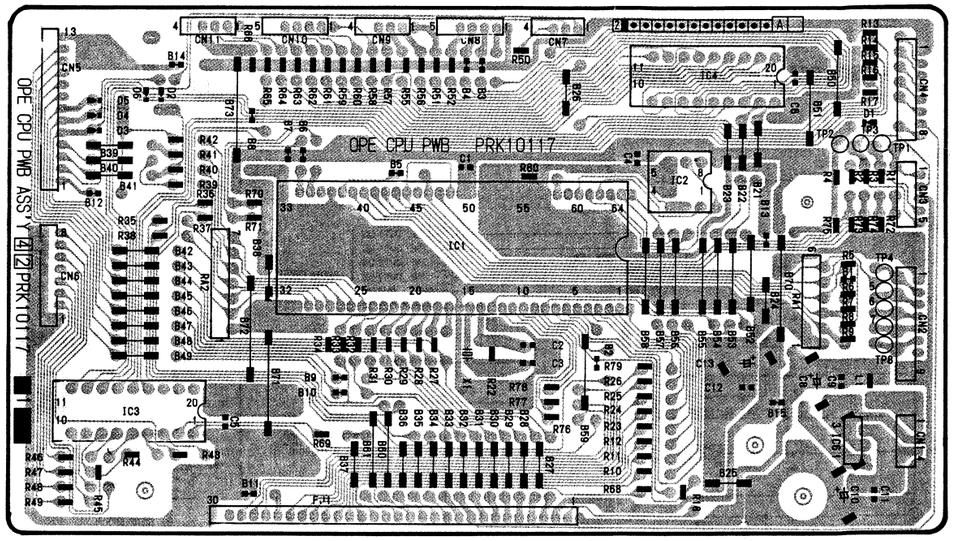
SYMBOL No.		PB
IC		
IC1	1	0.1
	2	2.5
	3	2.5
	4	2.5
	5	0.6
	6	0.0
	7	0.0
	8	0.0
	9	0.0
	10	0.0
	11	0.0
	12	0.0
	13	0.0
	14	5.0
	15	2.4
	16	2.3
	17	0.0
	18	4.0
	19	0.1
	20	0.0
	21	0.0
	22	0.0
	23	0.1
	24	0.1
	25	0.1
	26	0.1
	27	0.1
	28	0.0
	29	0.0
	30	0.0
	31	0.0
	32	0.0
	33	0.0
	34	0.0
	35	0.0
	36	5.1
	37	4.0
	38	0.0
	39	0.0
	40	5.0
	41	5.1
	42	5.1
	43	0.2
	44	0.0
	45	5.0
	46	4.9
	47	0.2
	48	5.1
	49	5.1
	50	0.0
	51	0.0
	52	0.0
	53	0.0
	54	0.1
	55	0.1

SYMBOL No.		PB
IC1	56	0.1
	57	0.1
	58	0.0
	59	0.0
	60	5.2
	61	5.2
	62	5.2
	63	5.0
	64	0.0
IC2	1	5.2
	2	5.2
	3	0.0
	4	0.0
	5	0.0
	6	5.2
	7	5.2
	8	5.2
IC3	1	0.0
	2	0.0
	3	0.0
	4	13.5
	5	13.4
	6	13.5
	7	13.5
	8	13.4
	9	13.4
	10	0.0
	11	13.5
	12	13.7
	13	13.5
	14	13.5
IC3	15	13.5
	16	0.1
	17	0.1
	18	0.1
	19	0.1
	20	5.2
IC4	1	0.0
	2	0.0
	3	0.0
	4	13.6
	5	13.6
	6	0.0
	7	1.9
	8	2.0
	9	13.5
	10	13.5
	11	13.5
	12	13.5
	13	13.6
	14	13.6
	15	13.5
	16	13.5

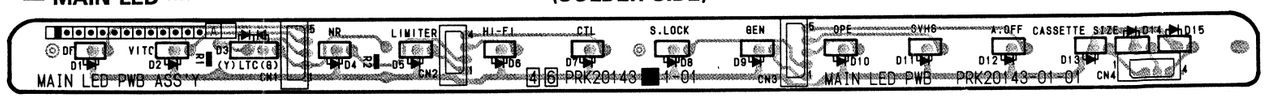
SYMBOL No.		PB
IC4	17	13.5
	18	13.5
	19	13.5
	20	5.2
IC6	1	5.2
	2	0.0
	3	7.6
CONNECTOR		
CN1	1	0.0
	2	0.0
	3	7.6
	4	0.0
CN2	1	15.0
	2	0.0
	3	0.0
	4	0.0
	5	5.0
	6	0.0
	7	0.0
	8	0.0
	9	-0.1
CN3	1	1.0
	2	4.9
	3	0.0
	4	4.0
	5	5.0
CN4	1	15.0
	2	0.0
	3	13.3
	4	13.4
	5	13.6
	6	13.4
	7	0.0
	8	0.1
CN5	1	0.0
	2	0.0
	3	0.0
	4	0.0
	5	0.0
	6	0.0
	7	0.0
	8	0.0
	9	0.0
	10	0.0
	11	0.0
	12	0.0
	13	15.0
CN6	1	0.0
	2	0.0

SYMBOL No.		PB
CN6	3	13.3
	4	13.3
	5	13.4
	6	13.4
	7	13.3
	8	13.4
CN7	1	14.9
	2	-0.3
	3	-0.0
	4	13.5
CN8	1	14.9
	2	12.0
	3	0.5
	4	13.4
	5	13.5
CN9	1	13.4
	2	12.9
	3	12.9
	4	13.4
CN10	1	13.5
	2	12.9
	3	12.9
	4	13.4
	5	13.4
CN11	1	12.9
	2	12.9
	3	12.9
	4	0.0

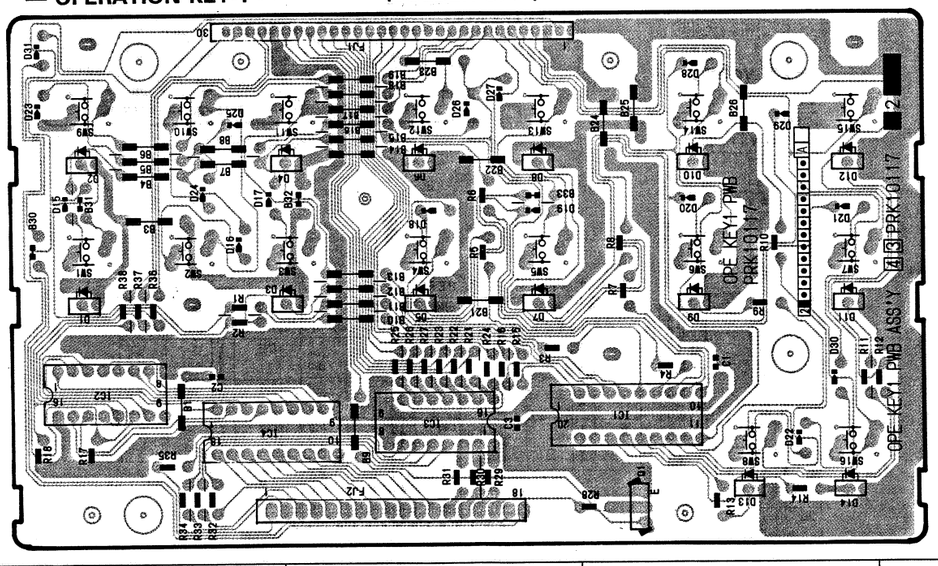
— OPERATION CPU — (SOLDER SIDE)



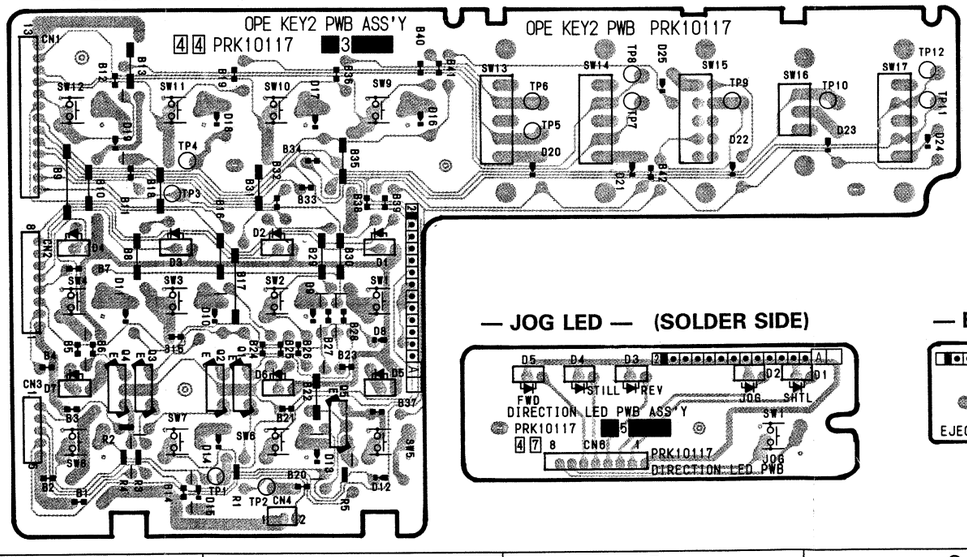
— MAIN LED — (SOLDER SIDE)



— OPERATION KEY-1 — (SOLDER SIDE)

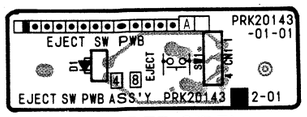


— OPERATION KEY-2 — (SOLDER SIDE)



— JOG LED — (SOLDER SIDE)

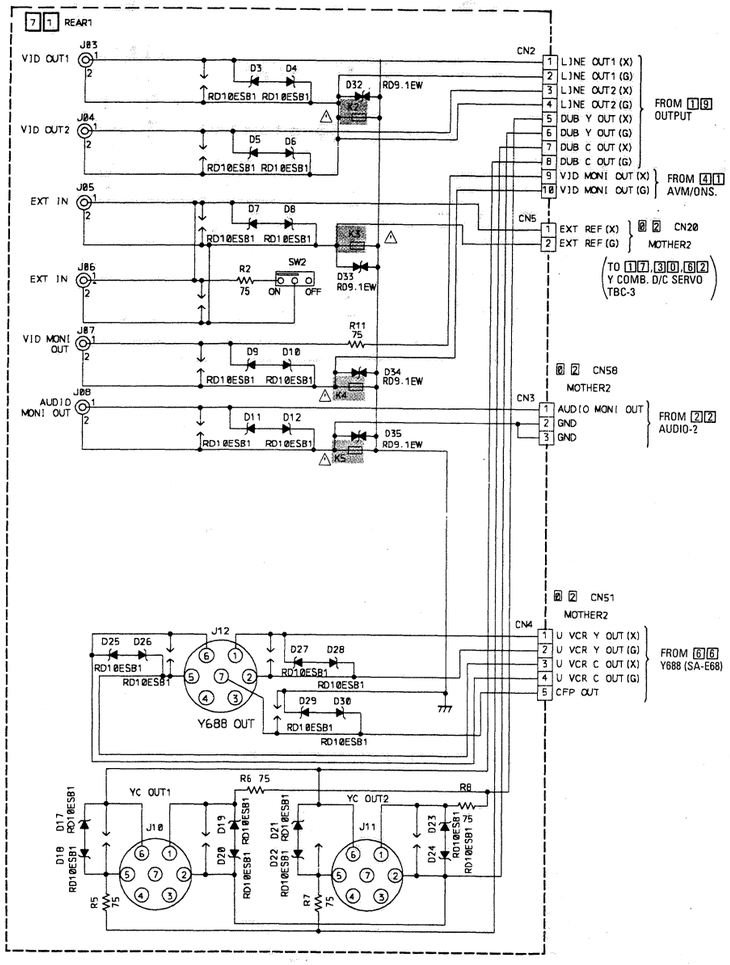
— EJECT SWITCH — (SOLDER SIDE)



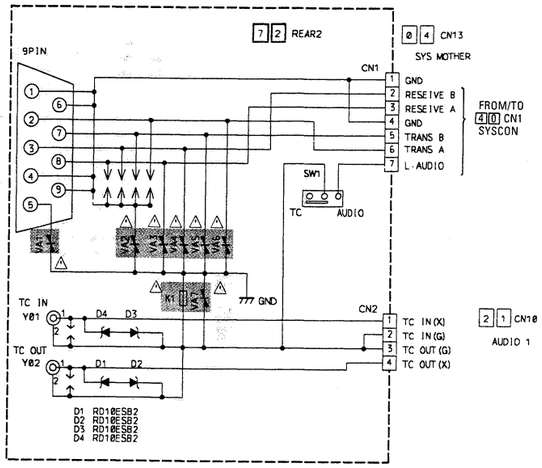
4.80 REAR (REAR-1 to -3) SCHEMATIC DIAGRAM & CIRCUIT BOARD

— SCHEMATIC DIAGRAM —

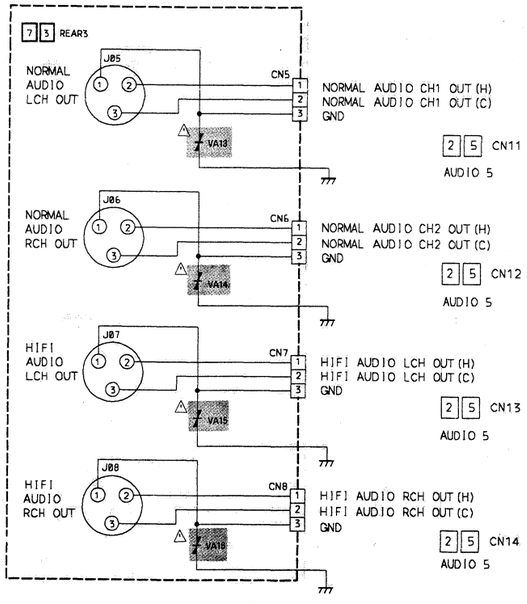
— REAR-1 —



— REAR-2 —



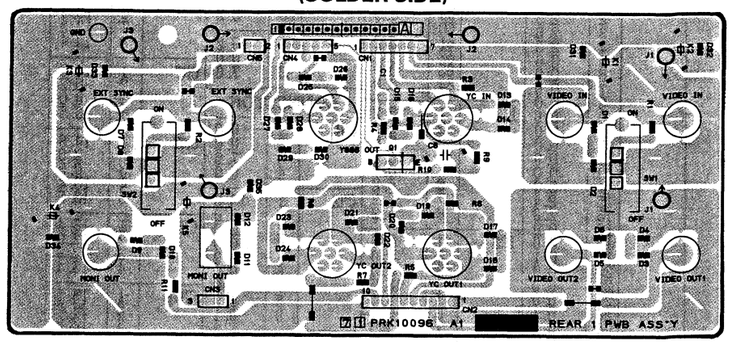
— REAR-3 —



— CIRCUIT BOARD —

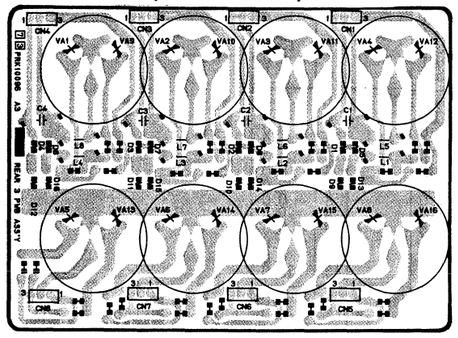
— REAR-1 —

(SOLDER SIDE)

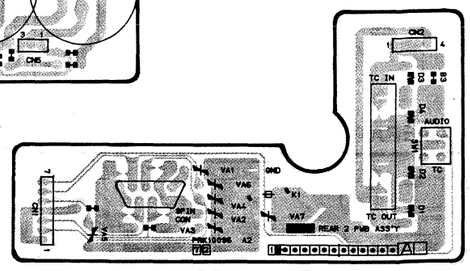


— REAR-3 —

(SOLDER SIDE)



— REAR-2 —



(SOLDER SIDE)

— DC voltage —

REAR 1 <71>

SYMBOL No.		REC	PB
TRANSISTOR			
Q1	B	—	0.1
	C	—	5.1
	E	—	0.0
CONNECTOR			
CN1	1	—	5.1
	2	—	0.1
	3	—	0.0
	4	—	0.0
	5	—	0.0
	6	—	0.0
	7	—	0.0
CN2	1	—	0.0
	2	—	0.0
	3	—	0.0
	4	—	0.0
	5	—	0.0
	6	—	0.0
	7	—	0.0
	8	—	0.0
	9	—	0.0
	10	—	0.0
CN3	1	—	0.0
	2	—	0.0
	3	—	0.0
CN4	1	—	5.3
	2	—	0.0
	3	—	5.8
	4	—	0.0
	5	—	0.0
CN5	1	—	0.0
	2	—	0.0

REAR 2 <72>

SYMBOL No.		REC	PB
CONNECTOR			
CN1	1	—	0.0
	2	—	2.5
	3	—	2.5
	4	—	0.0
	5	—	3.3
	6	—	0.4
	7	—	0.0
CN2	1	—	0.0
	2	—	0.0
	3	—	0.0
	4	—	0.0

REAR 3 <73>

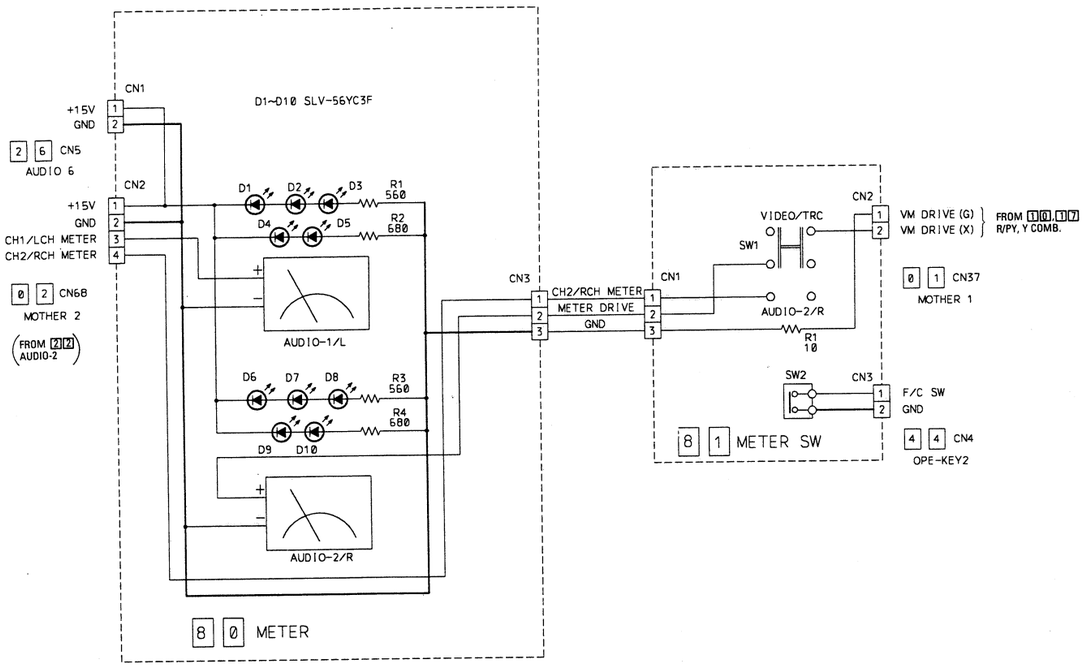
SYMBOL No.		REC	PB
CONNECTOR			
CN1	1	—	0.0
	2	—	0.0
	3	—	0.0
CN2	1	—	0.0
	2	—	0.0
	3	—	0.0
CN3	1	—	0.0
	2	—	0.0
	3	—	0.0
CN4	1	—	0.0
	2	—	0.0
	3	—	0.0
CN5	1	—	0.0
	2	—	0.0
	3	—	0.0

SYMBOL No.		REC	PB
CONNECTOR			
CN6	1	—	0.0
	2	—	0.0
	3	—	0.0
CN7	1	—	0.0
	2	—	0.0
	3	—	0.0
CN8	1	—	0.0
	2	—	0.0
	3	—	0.0

4.81 METER & SUB PANEL SCHEMATIC DIAGRAM & CIRCUIT BOARD

— SCHEMATIC DIAGRAM —

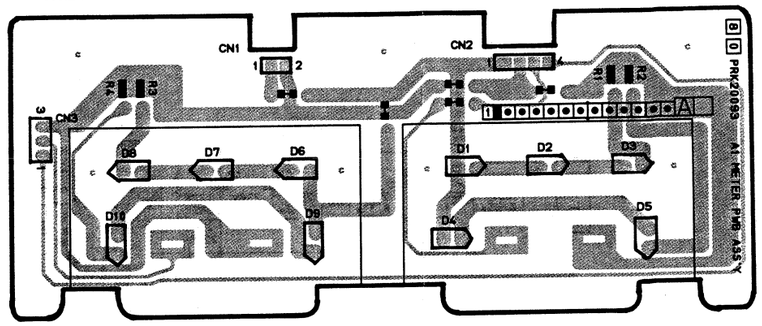
— METER —



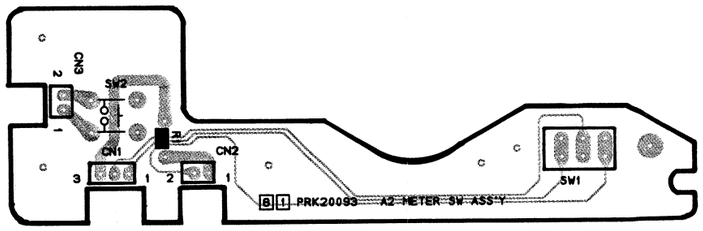
— SUB PANEL —

— CIRCUIT BOARD —

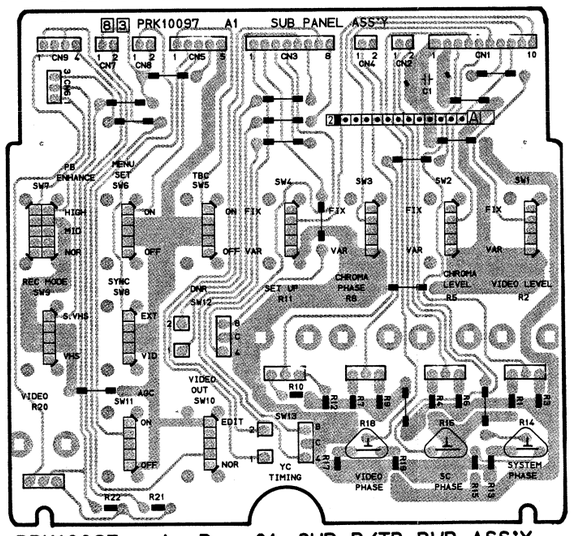
— METER —



— METER SWITCH —

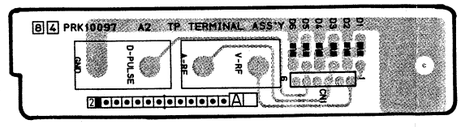


— SUB PANEL —

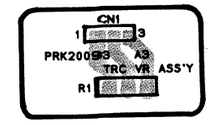


PRK10097 A B -01 SUB P/TP PWB ASS'Y
PRK10097 -01-03 SUB P/TP PWB

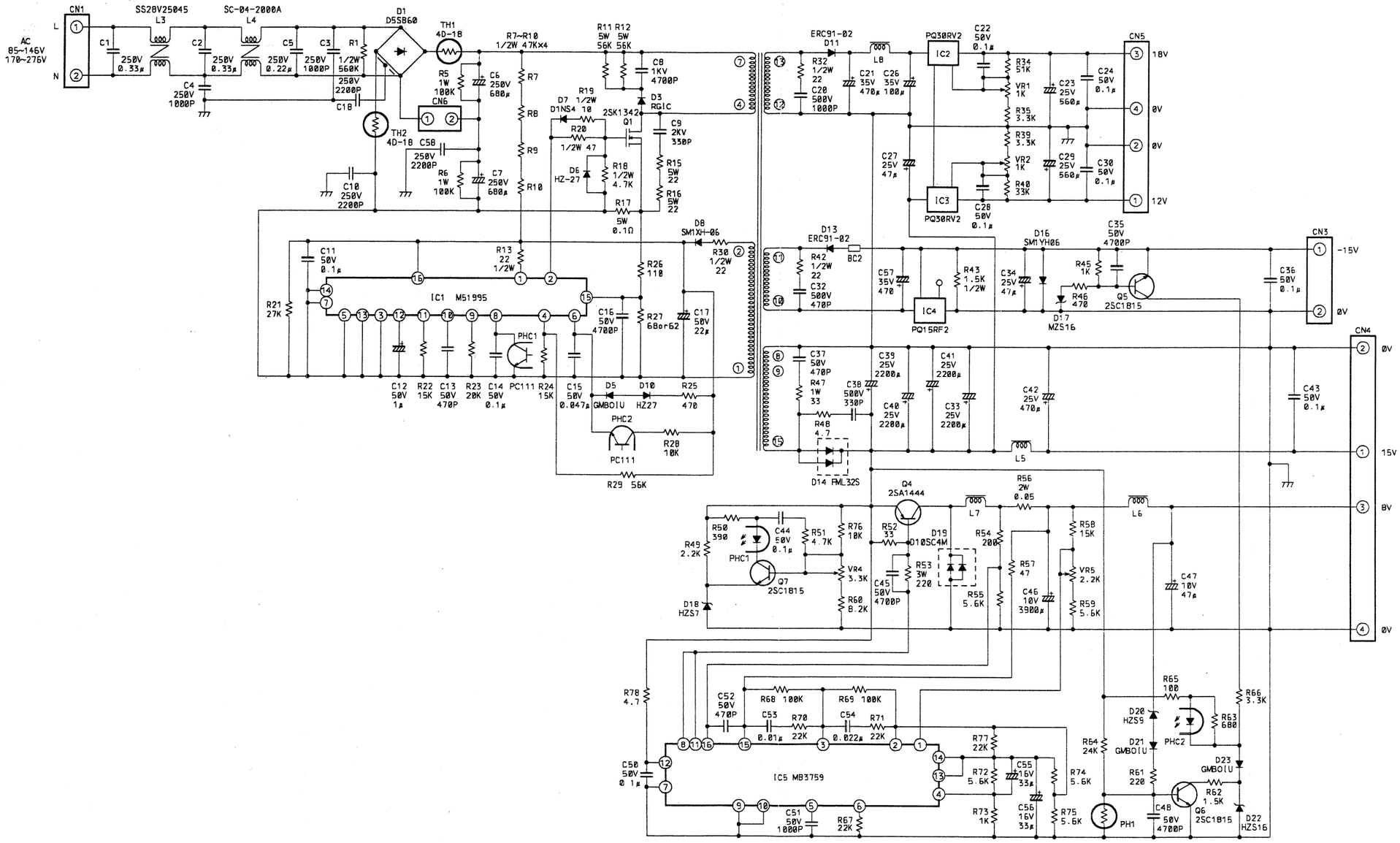
— TP TERMINAL —



— TRACKING VR —

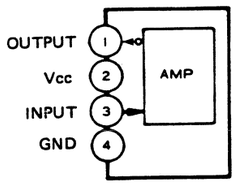


4.82 SWITCHING REGULATOR SCHEMATIC DIAGRAM (When something is wrong with this circuit, replace it with a new assembly part because this circuit is beyond repair service)

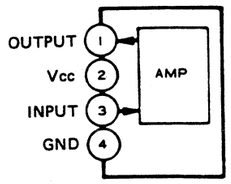


4.83 IC BLOCK DIAGRAM

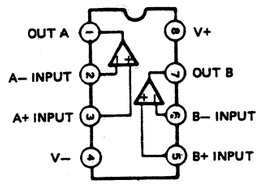
— AN607P —
Wide Band Amplifier Circuit



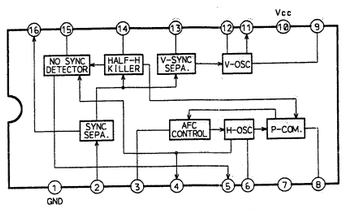
— AN608P —
Wide Band Amplifier Circuit



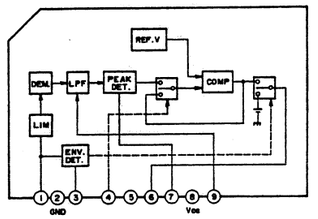
— AN1082S —
Dual Operation Amplifier



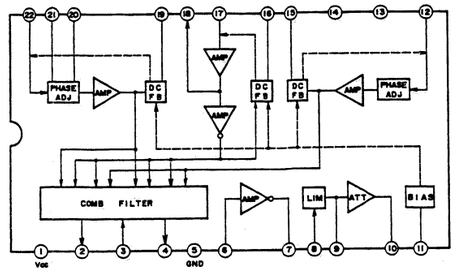
— AN3296 —
Sync sepa. & AFC circuit



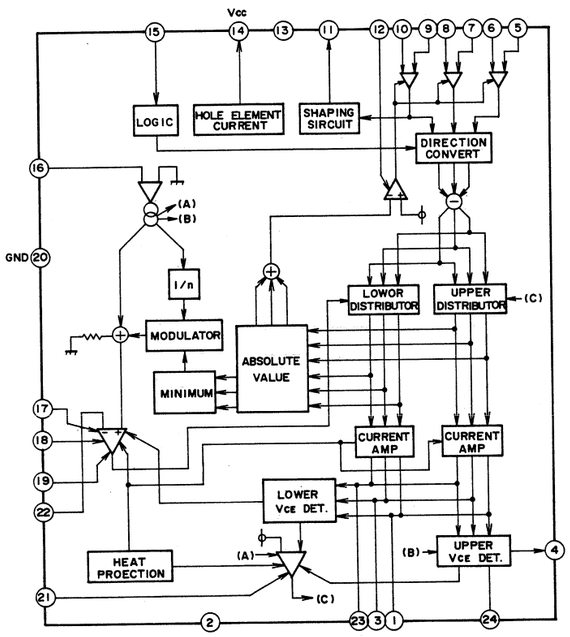
— AN3398 —
S-VHS Detector



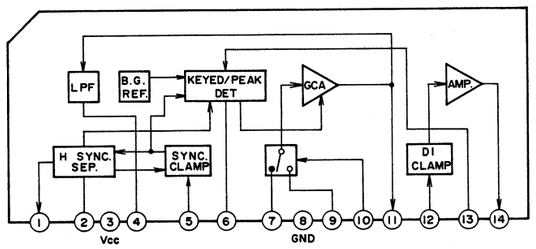
— AN3480K —
C.T.C. And Y/C Separator



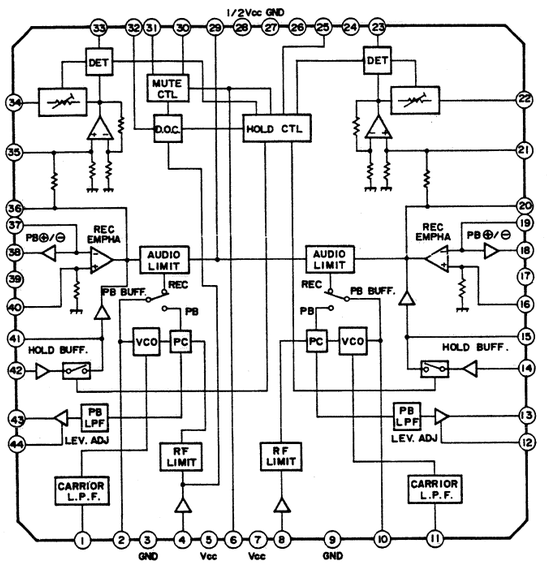
— AN3834K —
Reel Motor Driver



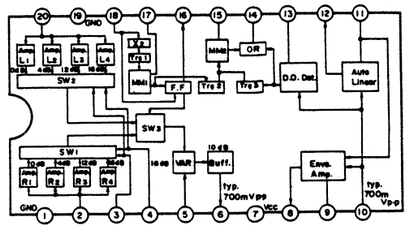
— AN3916 —
AGC



— AN3931NC-A —
Stereo Audio REC/PB Circuit



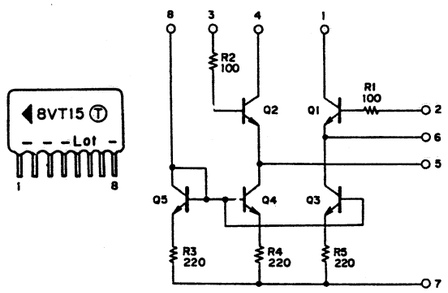
— AN3920S —
RF Amplifier Circuit for FM Audio



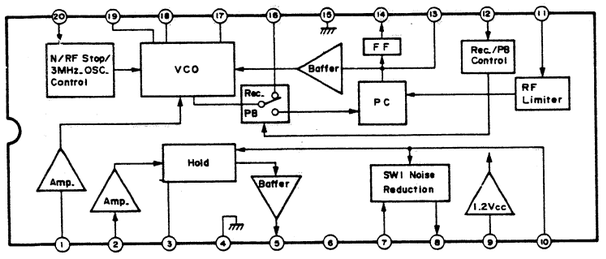
[Terminal Description]

Pin No.	Description	Pin No.	Description
1	GND	11	Auto Linear Detection Terminal
2	RF (R-ch) Input Terminal	12	Linear High Output Terminal
3	6H High Input Terminal	13	D.Ø. Detection Terminal
4	+12dB High Input Terminal	14	S/H Output Terminal
5	Variable Amplifier Control Terminal	15	M.M. 2
6	RF Output Terminal	16	A.H. SW Output Terminal
7	Vcc	17	M.M. 1
8	Enve Output Terminal	18	H. SW Input Terminal
9	Enve Detection Terminal	19	GND
10	RF Input Terminal	20	RF (L-ch) Input Terminal

— 8VT15 —
Driver



— AN3922NS —
FM Audio Signal Processing Circuit



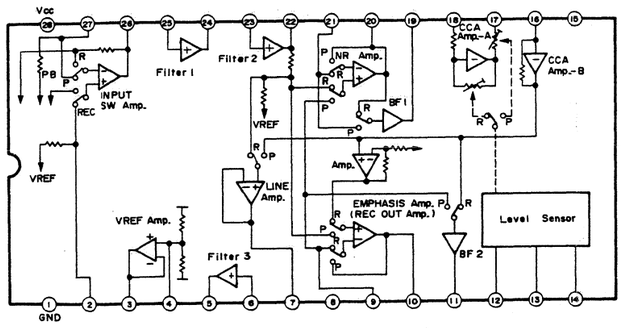
[Terminal Description]

Pin No.	Description	Pin No.	Description
1	Audio Signal Input on Rec. Mode	11	RF Signal Input on PB Mode
2	Hold Amp. Input Terminal	12	Rec./PB Control
3	Hold Control	13	FM Demodulation Control
4	GND (Audio)	14	FM Demodulation Output
5	Hold Output Terminal	15	GND (RF)
6	Vcc	16	FM Modulation Output
7	Switchig Noise Reduction Input Terminal	17	VCO Frequency Adjustment
8	Switching Noise Reduction Output Terminal	18	VCO Capacitance
9	1/2 Vcc	19	VCO Capacitance
10	Hold Pulse Input Terminal	20	VCO Oscillation Control

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— AN6298NS —

Peak-Noise-Reduction System for Hi-Fi VHS VRTs

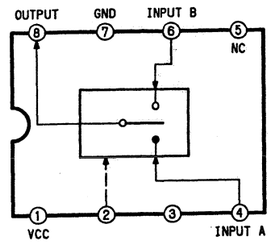


[Terminal Description]

Pin No.	Description	Pin No.	Description
1	GND	15	Encode Decode SW
2	Encode Input	16	CCA Amp. Input
3	Reference Voltage-1	17	CCA Gain Cell Output
4	Reference Voltage-2	18	CCA Gain Cell Input
5	Filter Amp. 3 Output	19	BF Amp. 1 Output
6	Filter Amp. 3 Input	20	NR-Emphasis-Amp. Output
7	Line Output	21	NR-Emphasis
8	Rec. Mute SW	22	Filter Amp. 2 Output
9	Output Emphasis	23	Filter Amp. 2 Input
10	Encode Output	24	Filter Amp. 1 Output
11	BF Amp. 2 Output	25	Filter Amp. 1 Input
12	Level Sensor Input	26	Input SW-Amp. Output
13	Timing Condensor	27	Decode Input
14	Recovery	28	Vcc

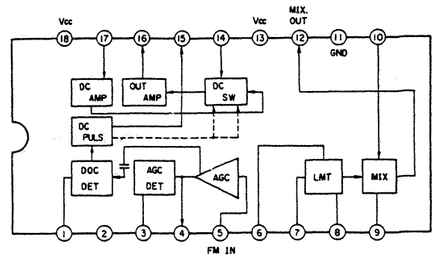
— AN6308S —

Analog Switch



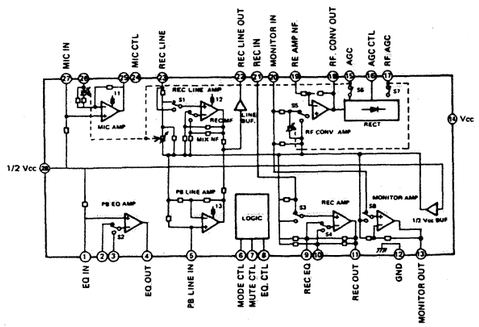
— AN6393 —

VTR Luminance Signal Processing Circuit



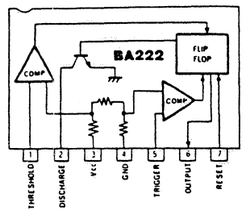
— AN6394 —

VTR Audio REC/PB Circuit



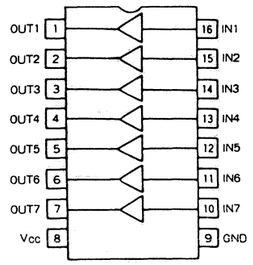
— BA222 —

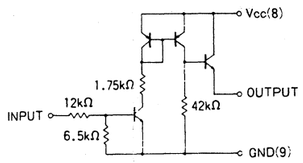
Monolithic Timer



— BA618 —

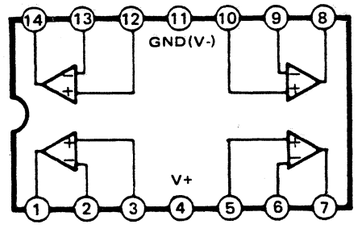
LED Driver





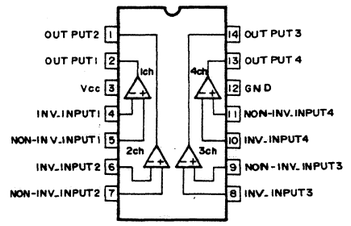
— BA10324/F —

Quad Ground Operational Amplfiers



— BA10339F —

Quad Comparator



— BA10358F —

Reference
BA6993F

— BA4558F —

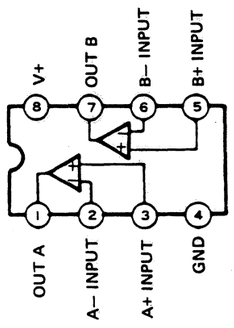
Reference
BA6993F

— BA6993F —

Dual Operational Amplifier

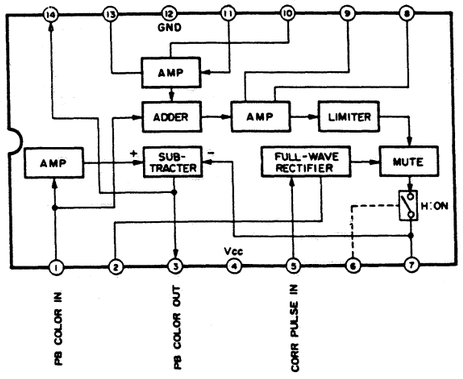
— BA10393F —

Reference
BA6993F



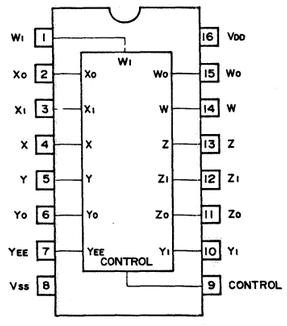
— BA7233 —

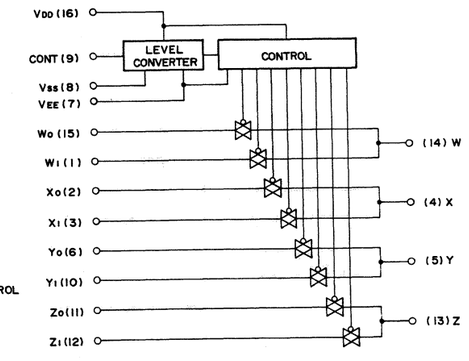
VTR Chroma Sub Signal Processing Circuit



— BU4551BF —

Quad 2 Input Analog Multiplexer/Demultiplexer



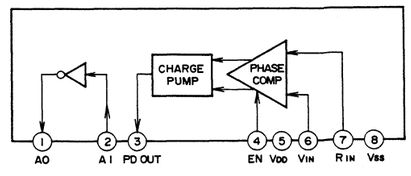


TRUTH TABLE

CONTROL	ON
0	Wo, Xo, Yo, Zo
1	Wi, Xi, Yi, Zi

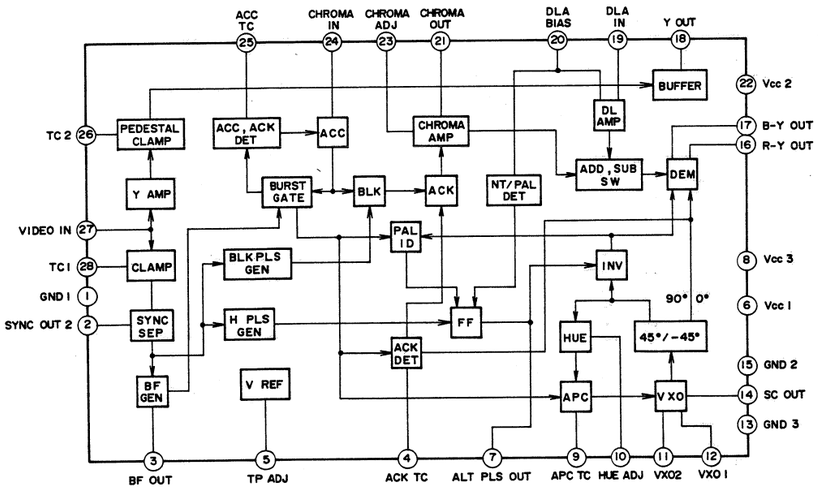
— CX23065A —

Phase Comparator

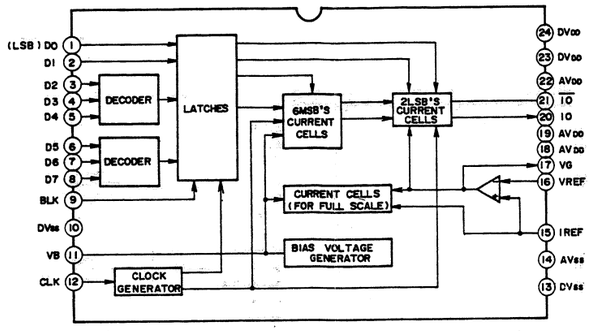


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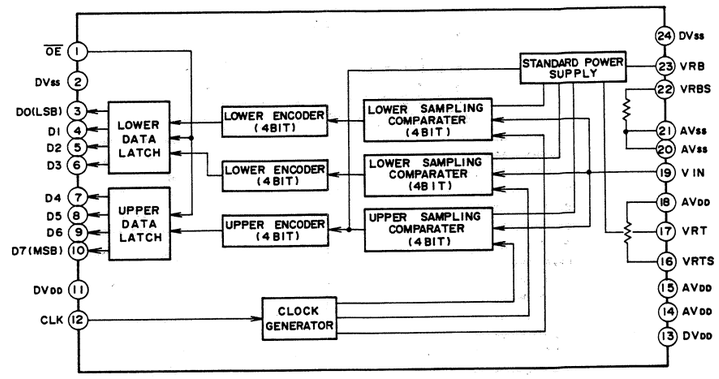
— CXA1228S —
NTSC/PAL Decoder



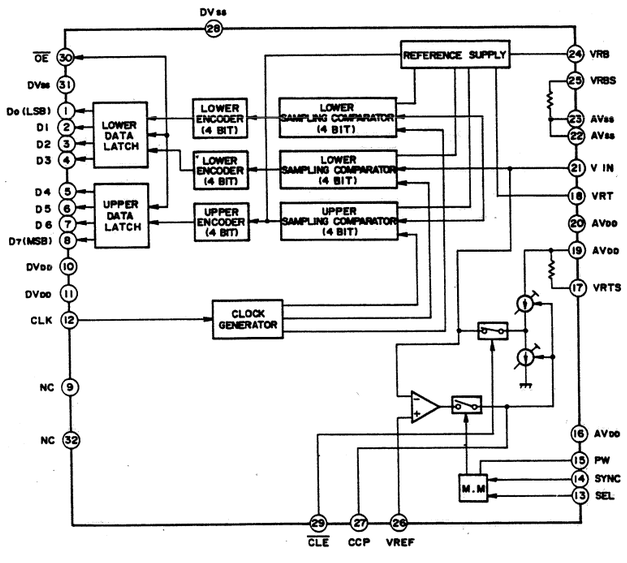
— CXD1171M —
D/A Converter



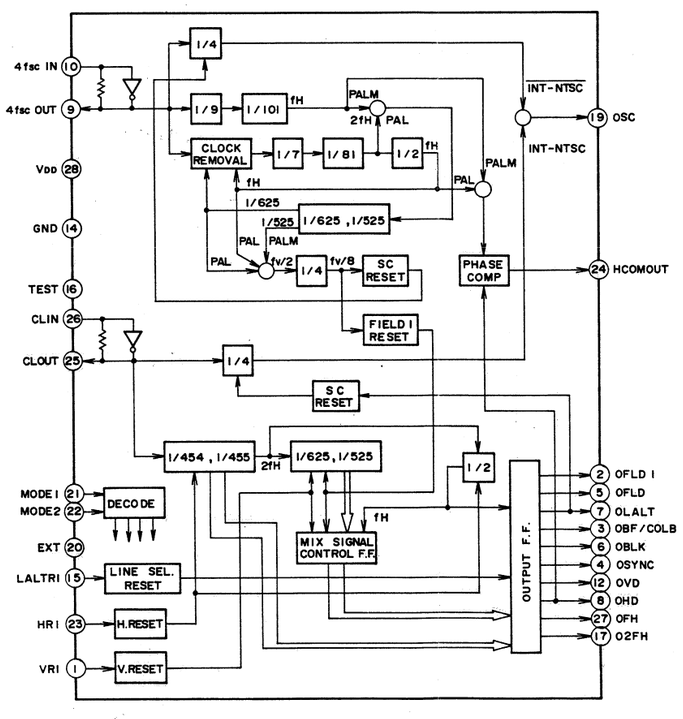
— CXD1175AM-XE —
A/D Converter



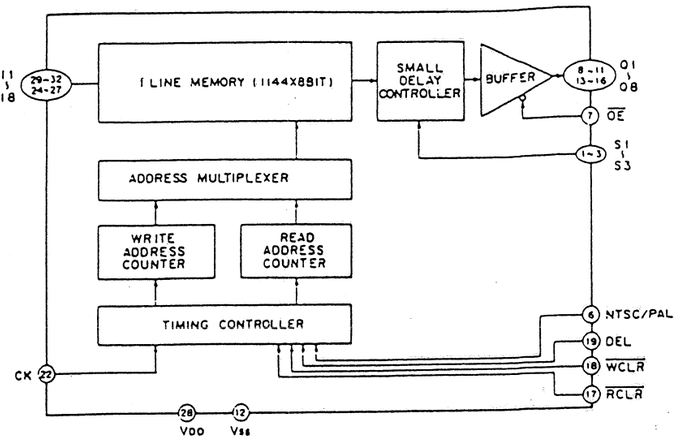
— CXD1176Q —
A/D Converter



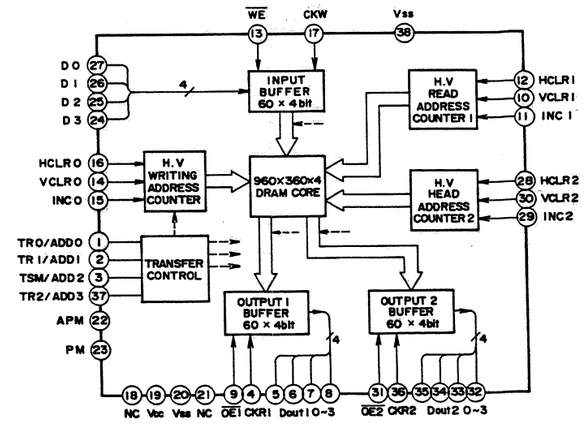
— CXD1217M —
Sync Generator



— CXK1202Q —
Digital Dily Line

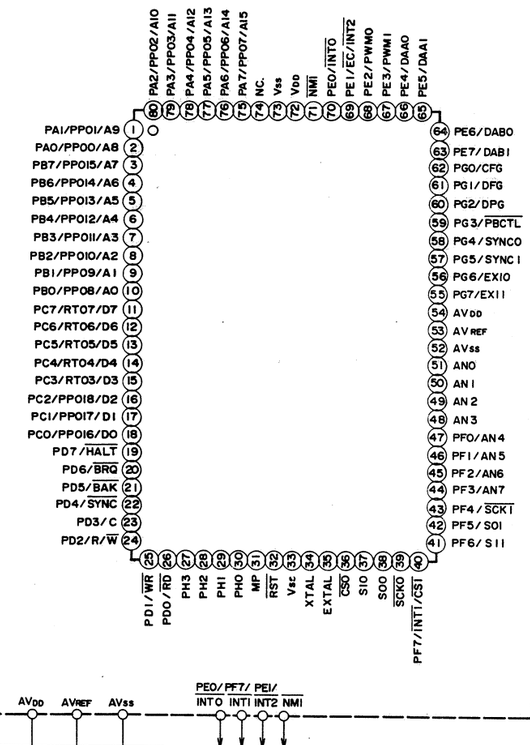


— CXK1206AM —
Field Memory

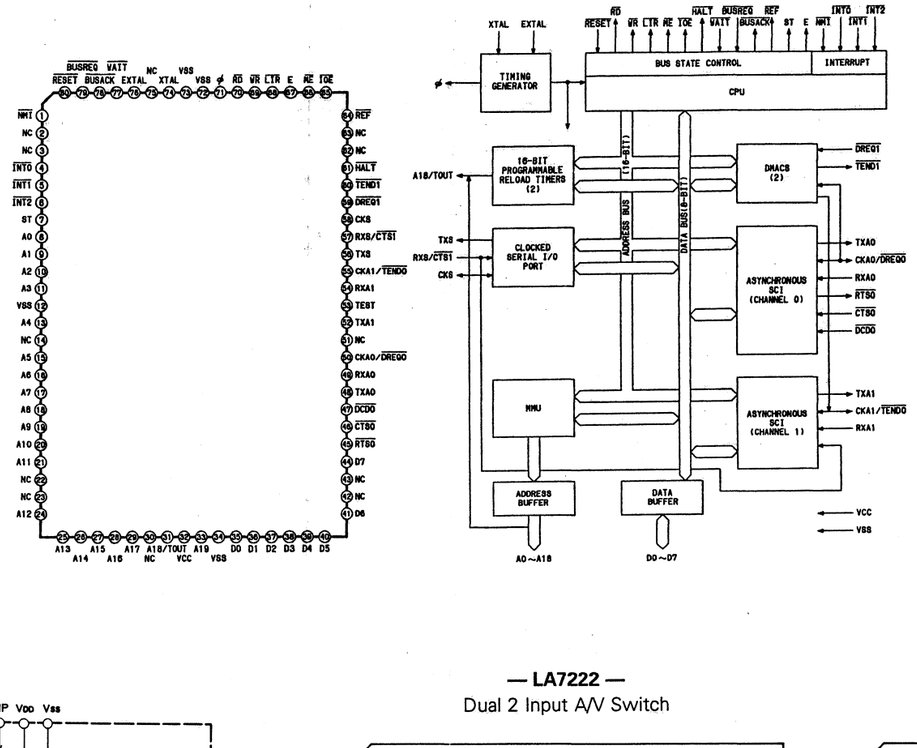


4-109

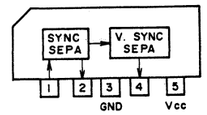
— CXP80116-706Q —
CMOS 8 Bit Micro Computer



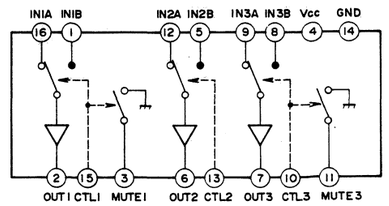
— HD64180ZF8 —
8 Bit CMOS Microprocessor



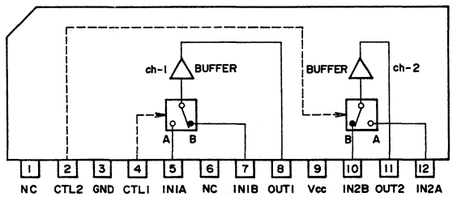
— LA7213 —
Sync Separator



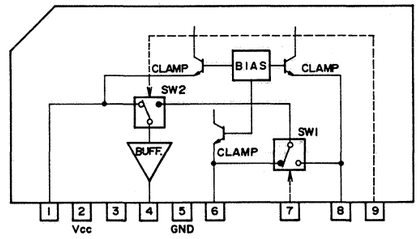
— LA7220 —
Electrical Switch



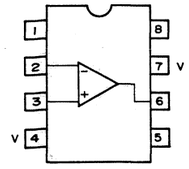
— LA7222 —
Dual 2 Input A/V Switch



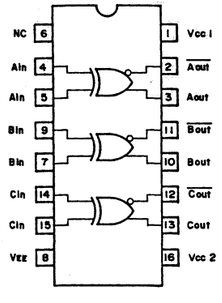
— LVA523SA —
Switch



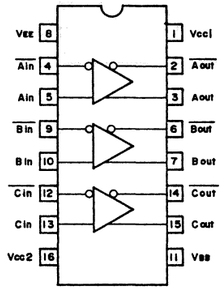
— LM6361M/N —
Comparator



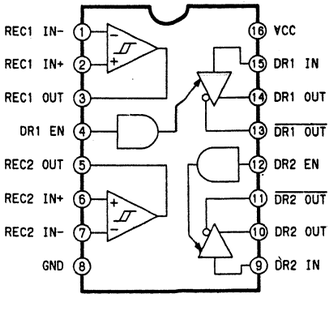
— MC10107L —
Triple 2-input Exclusive OR and Exclusive NOR

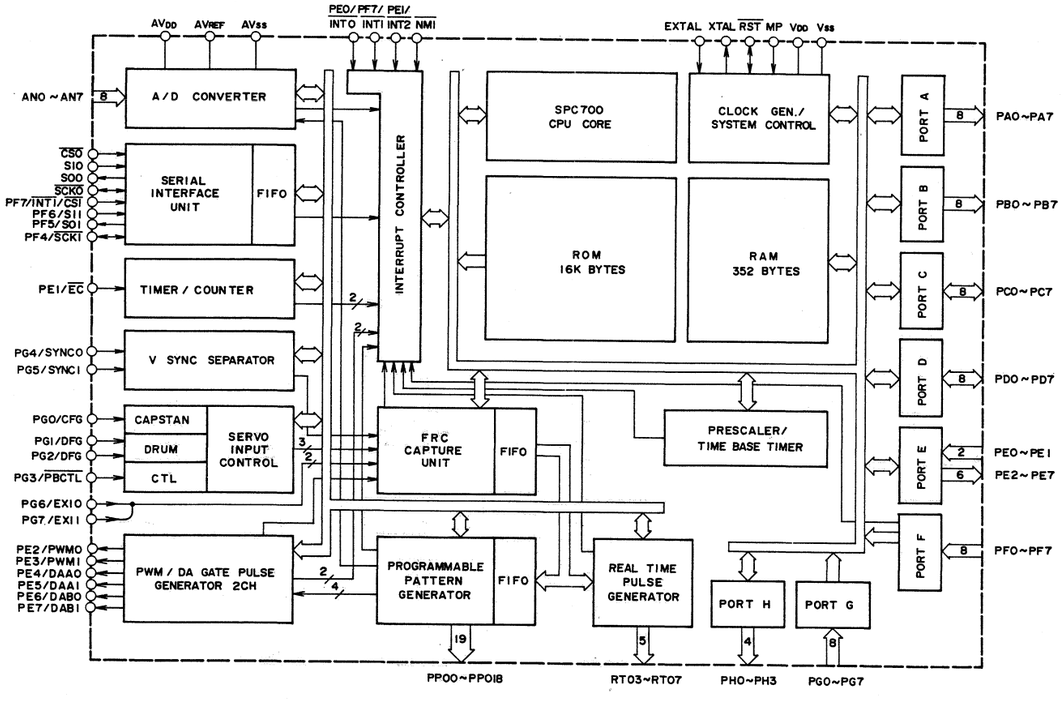


— MC10116L —
Triple line Receiver



— MC34051P —
Dual RS-422/423 Transceiver





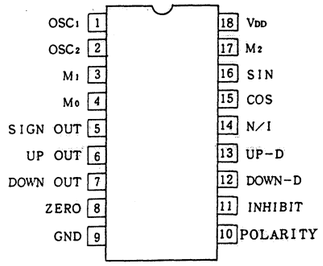
— MC10107L —
Triple 2-input Exclusive OR and Exclusive NOR

— MC10116L —
Triple line Receiver

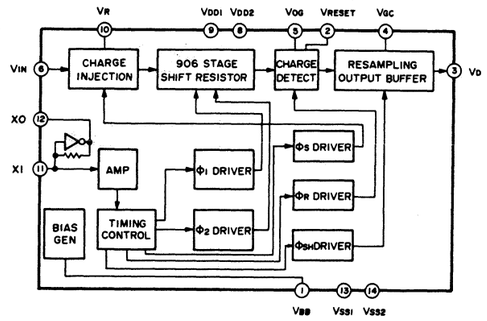
— MC34051P —
Dual RS-422/423 Transceiver

4-110

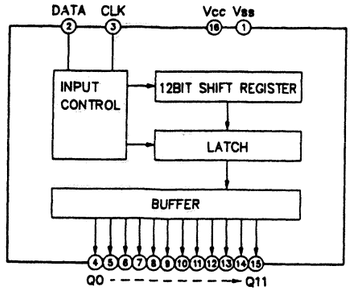
— MSM5210RS —
Up/Down Counter



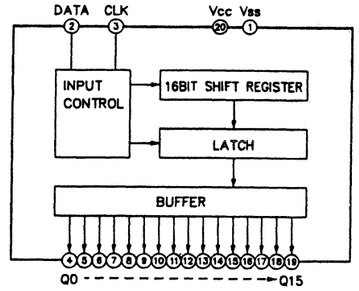
— MN3801 —
CCD Video Signal Delay Circuit



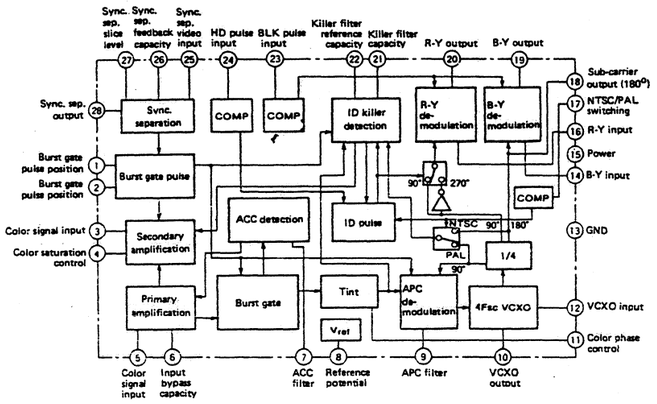
— M50253P —
12 Bit Serial Data/Parallel converted IC



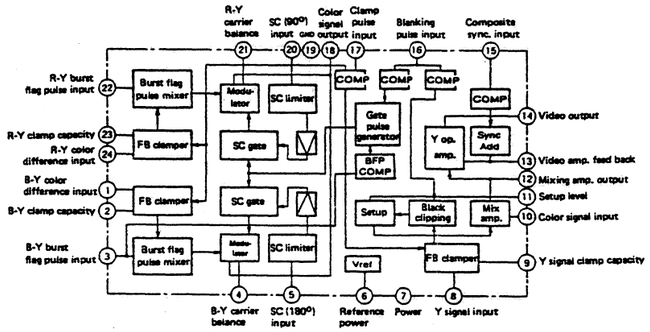
— M50255P —
16 Bit Serial Data/Parallel Converted IC



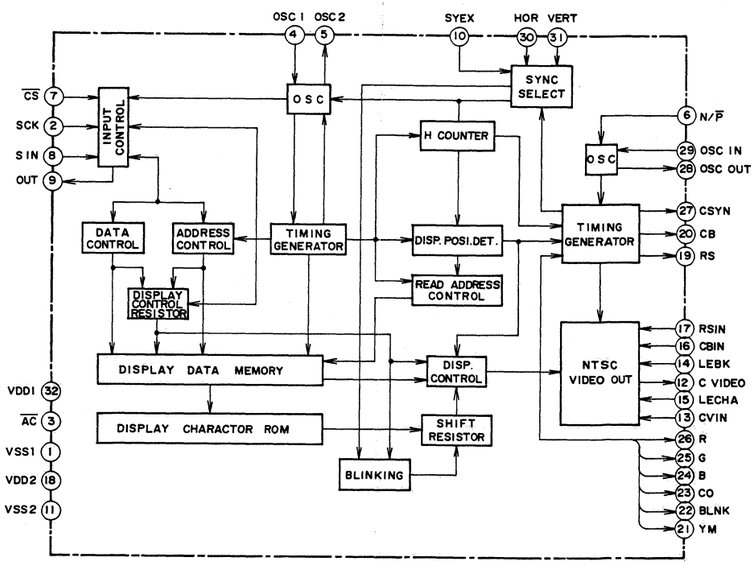
— M51271FP —
NTSC Decoder



— M51272FP —
PAL Encoder



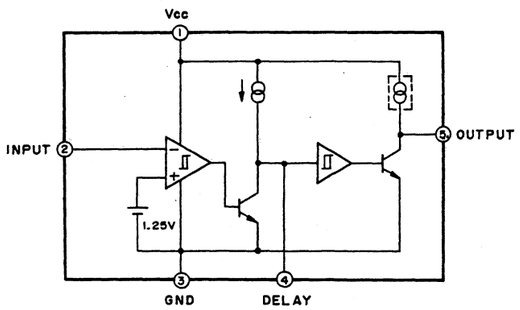
— M50554-263SP —
Character Generator



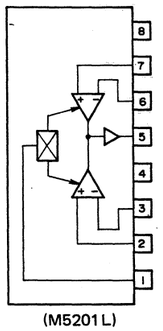
— M5216FP —
Reference
M5218AP

— M5220P —
Reference
M5218AP

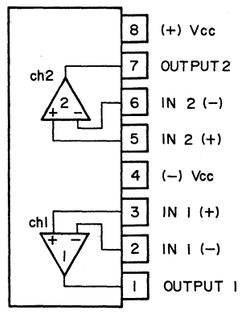
— M51957BFP/BL —
Voltage Detector/System Reset



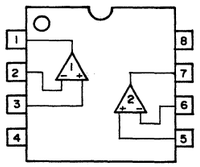
— M5201L —
2 Input Switch Opeamp



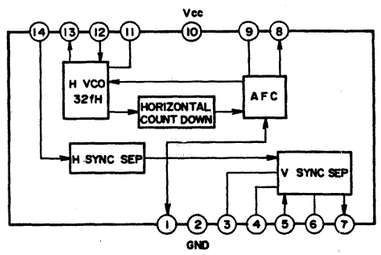
— M5218AL —
Dual Opeamp



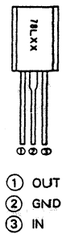
— M5218AP —
Dual Opeamp



— M52684AP —
Sync sepa./H. AGC/H. VCO



— M5278L05/09/12 —
Regulator



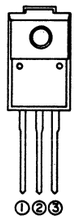
4-111

— M5278L05M/09M/12M —
Regulator



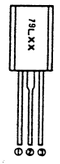
① IN
② GND
③ OUT

— M5278D05/12 —
Regulator



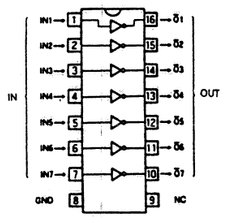
① IN
② GND
③ OUT

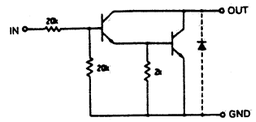
— M5279L12 —
Regulator



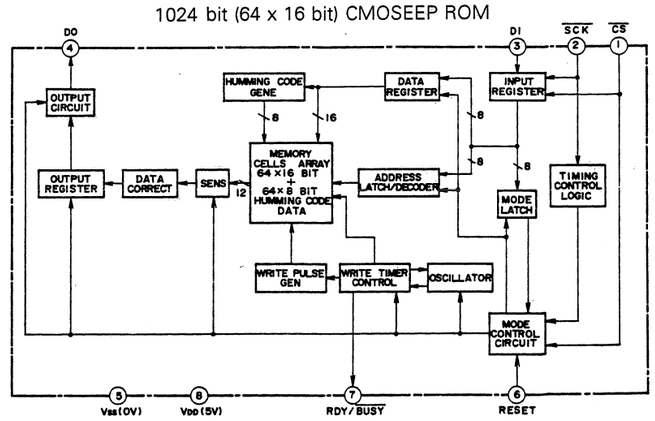
① GND
② IN
③ OUT

— M54519P —
7-Unit 400 mA Darlington Transistor Array

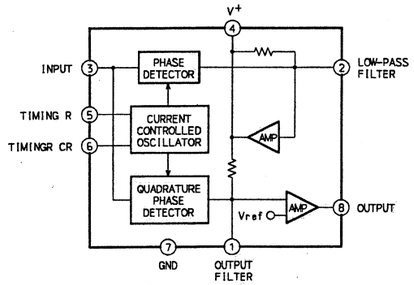




— M6M80011AP —
1024 bit (64 x 16 bit) CMOSEEP ROM



— NJM567M —
Tone decorder/Phase locked loop

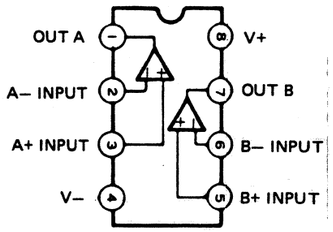


— NJM431U —
Regulator

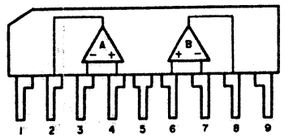


1. REF
2. ANODE
3. CATHODE

— NJM2068MD —
Dual Operation Amplifier

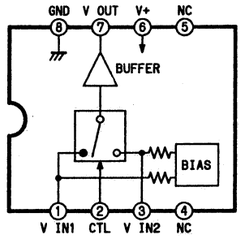


— NJM2068S-D —
Dual Operational Amplifier

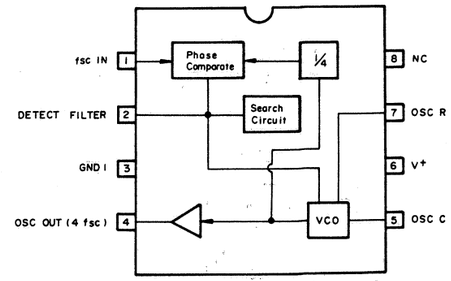


1. V+
2. A OUTPUT
3. A – INPUT
4. A + INPUT
5. V–
6. B + INPUT
7. B – INPUT
8. B OUTPUT
9. V+

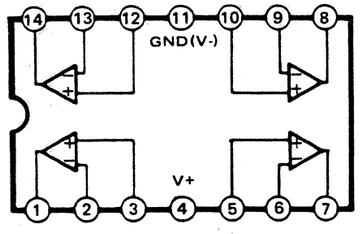
— NJM2233BD —
Switching Bias Amp



— NJM2240D —
4 fsc OSC



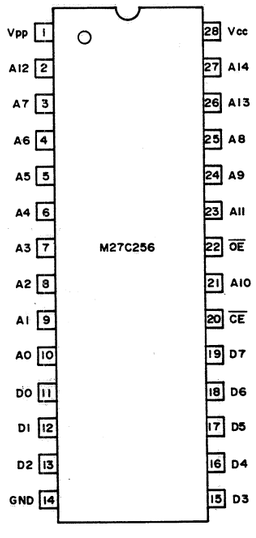
— NJM3403A —
Quad Ground Operational Amplifiers



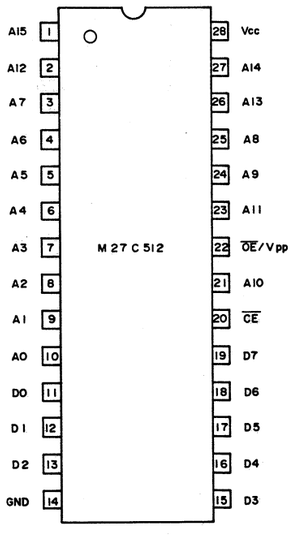
— NJM4556S —
Reference
NJM2068S-D

— NJM5532M —
Reference
NJM2068MD

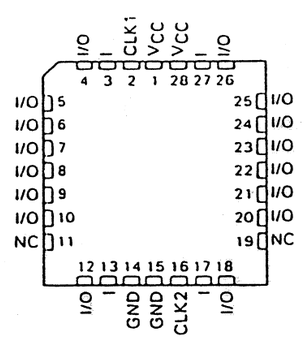
— PGD30241 —
CMOS One Time Programmable ROM



— PGD30620 —
524288 Bit Programmed EPROM

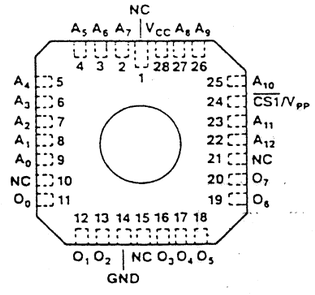


— PGD30641-01-01 —
PLD 3-State Out Put (16 Macrocells)



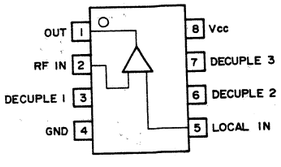
NC – No internal connection

— PGD30642-01-01 —
High Speed 8K X8 CMOS PROM/RPROM



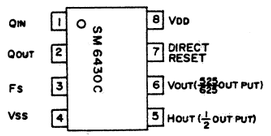
— RC4560M —
Reference
NJM2068MD

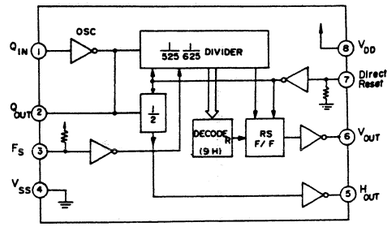
— SN16913P —
Double Balanced Mixer



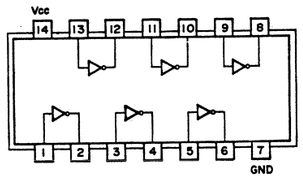
4-112

— SM6430C —
Divider

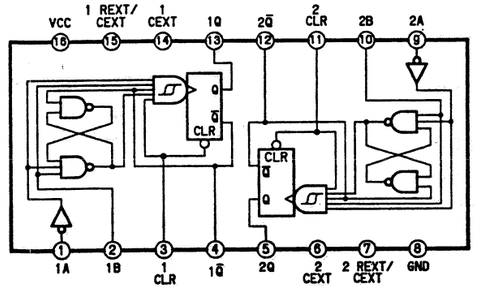




— SN7406NS —
Hex Inverter



— SN74LS221NS —
Dual Monstable Multivibrators

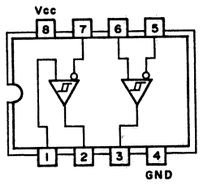


TRUTH TABLE

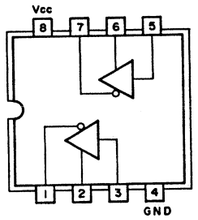
INPUTS			OUTPUTS	
CLEAR	A	B	Q	Q̄
L	×	×	L	H
×	H	×	L	H
×	×	L	L	H
H	L	↑	⊓	⊔
H	↓	H	⊓	⊔
↑	L	H	⊓	⊔

— SN74LS541NS —
Reference
TC74HC541AP/AF

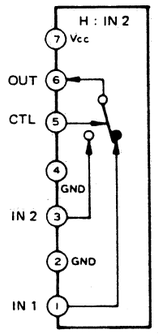
— SN75157PS —
Dual Receiver



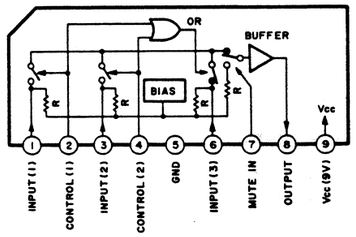
— SN75158PS —
Dual Driver



— TA7347P —
2-Input Switch



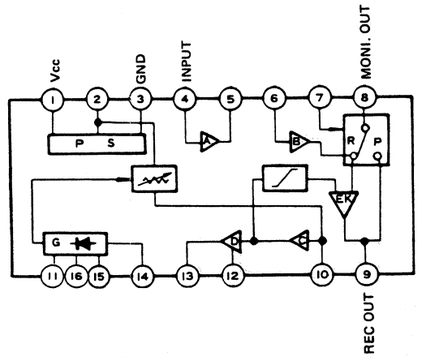
— TA7348P —
3-Input Switch



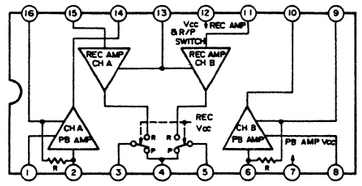
Truth Table

CONTROL (1) 2 Pin	CONTROL (2) 4 Pin	MUTE INPUT 7 Pin	OUTPUT 8 Pin
H	L	L	INPUT(1)
L	H	L	INPUT(2)
L	L	L	INPUT(3)

— TA7629P —
Dolby B Type Noise Reduction Processor



— TA7742P —
2ch Preamp & Rec Amp



[Terminal Description]

Pin No.	Description	Pin No.	Description
1	GND	9	DC FEEDBACK FILTER
2	PREAMP IN	10	PREAMP OUT
3	REC/PB SELECT SW	11	REC SIGNAL IN
4	GND	12	REC Vcc
5	REC/PB SELECT SW	13	GND
6	PREAMP IN	14	DFF IN (A/B̄)
7	PB Vcc	15	REC SIGNAL IN
8	GND	16	DC FEEDBACK FILTER

—TA78009AP —
Regulator



Pin1 IN
Pin2 OUT
Pin3 GND

— TA78L009AP/012AP —
Regulator



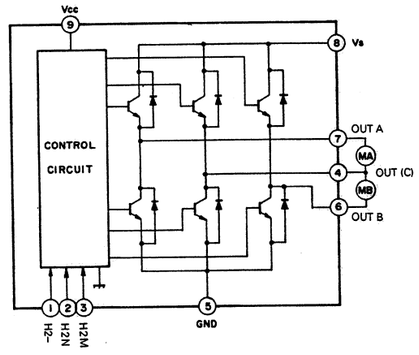
Pin1 IN
Pin2 OUT
Pin3 COMMON

— TA79L012P —
Regulator



Pin1 OUT
Pin2 GND
Pin3 IN

— TA8405S —
DC Motor Drive

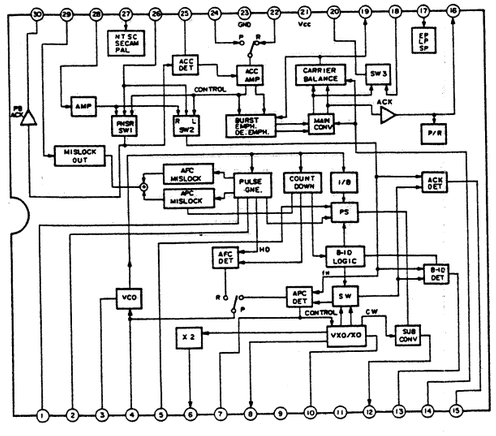


TRUTH TABLE

INPUT			INPUT			MODE	
IN 1	IN 2	IN 3	OUT (C)	OUT A	OUT B	MA	MB
0	0	1/0	*	*	*	STOP	STOP
1	0	0	H	L	*	CW/CCW	STOP
1	0	1	L	H	*	CCW/CW	STOP
0	1	0	H	*	L	STOP	CW/CCW
0	1	1	L	*	H	STOP	CCW/CW
1	1	1/0	L	L	L	BRAKE	BRAKE

*: High Impedance

— TA8644N —
Color Signal Processing Circuit



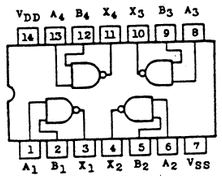
[Terminal Description]

Pin No.	Description	Pin No.	Description
1	COMP. SYNC IN	16	PB(H)/REC(L)
2	BURST GATE PULSE OUT	17	EP(H)/LP(M)/SP(L)
3	VCO TIME CONSTANT	18	REC VIDEO IN
4	VCO CTL FILTER	19	DC FEEDBACK FILTER
5	SW PULSE IN	20	BPF DRIVE
6	2fsc OUT	21	Vcc (2)
7	VXO CTL FILTER	22	REC COLOR IN
8	VXO OUT	23	GND (2)
9	Vcc (1)	24	PB COLOR IN
10	VXO IN	25	ACC FILTER
11	GND (1)	26	COLOR IN (1)
12	SUB CONV OUT	27	NTSC(H)/SECAM(M)/PAL(L)
13	B. ID FILTER	28	COLOR IN (2)
14	CONV CARRIER IN	29	MISLOCK FILTER
15	ACK FILTER	30	COLOR OUT

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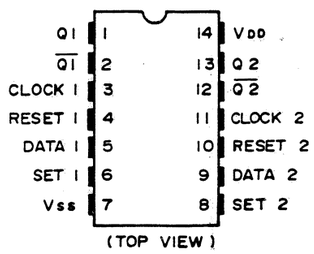
— TC4011BF —

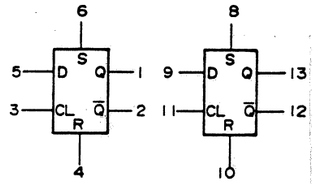
Quad 2 Input NAND Gate



— TC4013BP/BF —

Dual D-type Flip-Flop



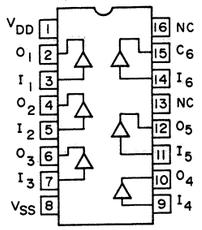


TRUTH TABLE

INPUTS				OUTPUTS	
RESET	SET	DATA	CLOCK △	Qn+1	$\overline{Qn+1}$
L	H	*	*	H	L
H	L	*	*	L	H
H	H	*	*	L	H
L	L	L	↑	L	H
L	L	H	↑	H	L
L	L	*	↓	Qn•	$\overline{Qn}$•

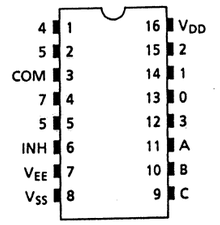
* : Don't Care
△ : Level Change
• : No Change

— TC4050BF —



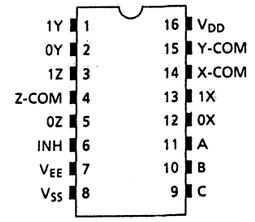
— TC4051BP/BF —

Signal 8-channel Multiplexer/Demultiplexer



— TC4053BP/BF —

Triple 2-channel Multiplexer/Demultiplexer



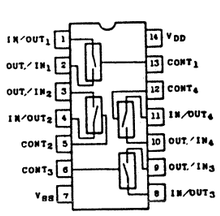
TRUTH TABLE

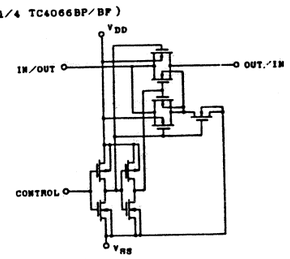
CONTROL INPUTS				"ON" CHANNEL	
INHIBIT	C△	B	A	TC4051BP TC4051BF	TC4053BP TC4053BF
L	L	L	L	0	0X, 0Y, 0Z
L	L	L	H	1	1X, 0Y,0Z
L	L	H	L	2	0X, 1Y, 0Z
L	L	H	H	3	1X, 1Y, 0Z
L	H	L	L	4	0X, 0Y, 1Z
L	H	L	H	5	1X, 0Y, 1Z
L	H	H	L	6	0X, 1Y, 1Z
L	H	H	H	7	1X, 1Y, 1Z
H	*	*	*	NONE	NOTE

* Don't Care, △Except TC4052

—TC4066BF —

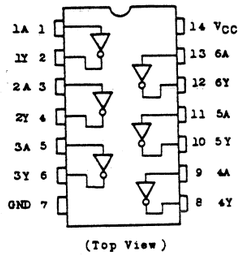
Quad Bilateral Switch





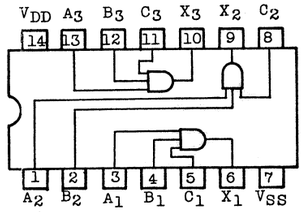
— TC4069UBF —

Hex Inverter



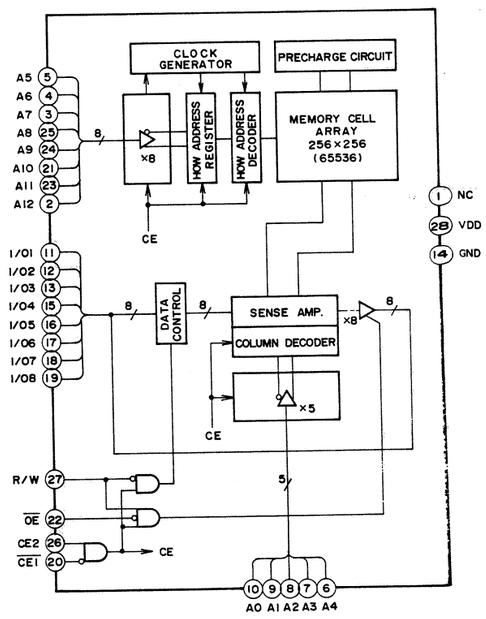
— TC4073BP —

Triple 3 Input AND Gate



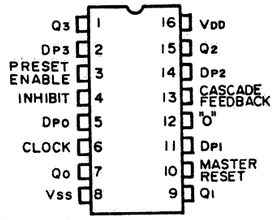
— TC5564APL-15 —

8192 Word x8 Bit CMOS RAM



— TC4526BF —

Programmable Divide-by-N 4-Bit Counter



TRUTH TABLE

CLOCK	INHIBIT	PRESET ENABLE	MASTER RESET	ACTION
L	*	L	L	NO COUNT
↓	L	L	L	COUNT
*	H	L	L	NO COUNT
H	↓	L	L	COUNT
*	*	H	L	PRESET
*	*	*	H	RESET

* Don't Care

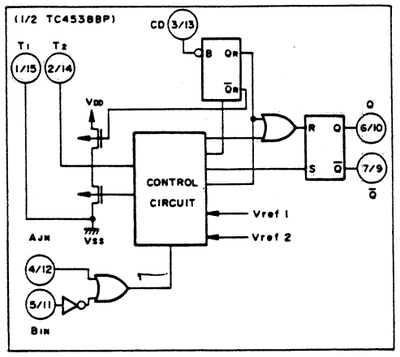
— TC4538BF —

Dual Precision Retriggerable/Resettable Monostable Multivibrator

TRUTH TABLE

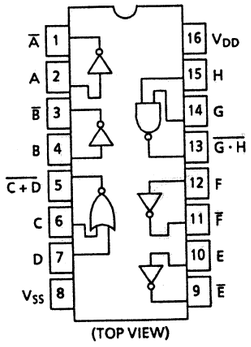
INPUT			OUTPUT		NOTE
AIN	BIN	CD	Q	$\overline{Q}$	
↓	H	H	⊓	⊔	OUTPUT ENABLE
↓	L	H	L	H	INHIBIT
H	↑	H	L	H	INHIBIT
L	↑	H	⊓	⊔	OUTPUT ENABLE
✳	✳	L	L	H	INHIBIT

✳ Don't Care



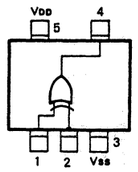
— TC4572BP —

Quad INV. plus, NOR plus NAND Gate

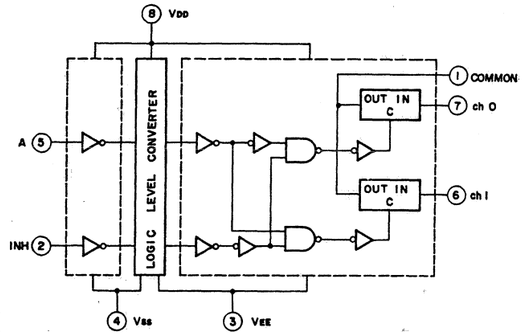


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— TC4S30F —
Exclusive-OR Gate



— TC4W53F —
2 Channel Multi Plexer/Demulti Plexer

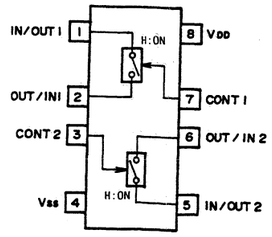


TRUTH TABLE

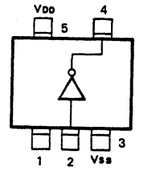
CONTROL INH	INPUT A	ON CHANNEL
L	L	ch 0
L	H	ch 1
H	*	NONE

*Don't Care

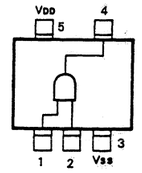
— TC4W66F —
Dual Bilateral Switch



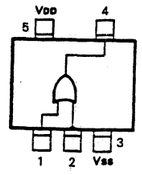
— TC7S04F —
Inverter



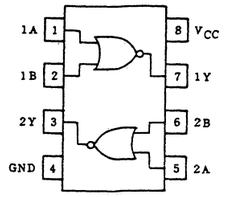
— TC7S08F —
AND Gate



— TC7S32F —
OR Gate



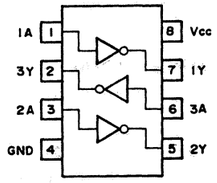
— TC7W02F —
DULA 2-INPUT NOR GATE



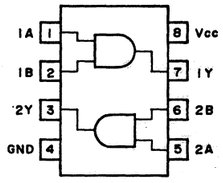
TRUTH TABLE

A	B	Y
L	L	H
L	H	L
H	L	L
H	H	L

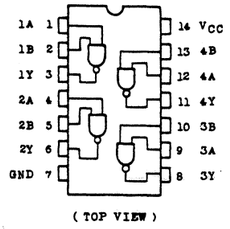
— TC7W04F —
Triple Inverter



— TC7W08F —
Dual AND Gate

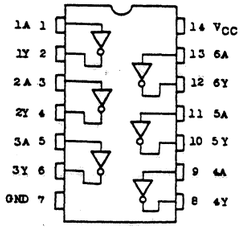


— TC74HC00AF/AP —
Quad 2-Input NAND Gate



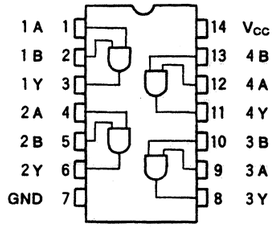
(TOP VIEW)

— TC74HC04AF/AP —
Hex Inverter



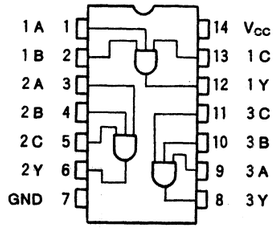
(Top View)

— TC74HC08AF/AP —
Quad 2-Input AND Gate



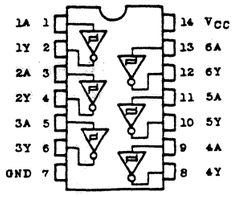
(TOP VIEW)

— TC74HC11AP —
Triple 3-Input AND Gate



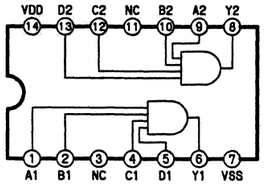
(TOP VIEW)

— TC74HC14AP/AF —
Hex Schmitt Inverter

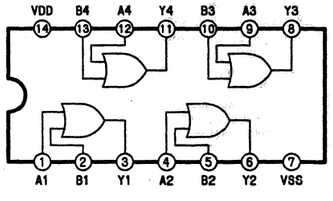


(Top View)

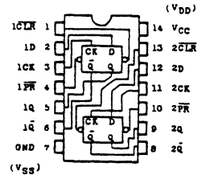
— TC74HC21AF —
Dual 4-Input AND Gate



— TC74HC32AP/AF —
Quad 2-Input OR Gate



— TC74HC74AP/AF —
Dual D Flip-Flop with Preset and Clear

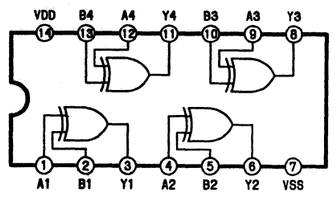


TRUTH TABLE

INPUTS CLR	PR	D	CK	OUTPUTS Q	Q	FUNCTION
L	H	*	*	L	H	CLEAR
H	L	*	*	H	L	PRESET
L	L	*	*	H	H	—
H	H	L	↑	L	H	—
H	H	H	↑	H	L	—
H	H	*	↓	Qn	Qn	NO CHANGE

* Don't care

— TC74HC86AF —
Quad Exclusive OR Gate

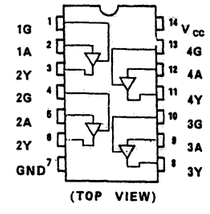


$Y = A \oplus B = \bar{A}B + A\bar{B}$

TRUTH TABLE

INPUTS A	B	OUTPUTS Y
L	L	L
L	H	H
H	L	H
H	H	L

— TC74HC126AP —
Quad Bus Buffer



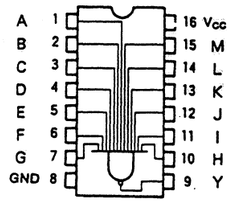
(TOP VIEW)

TRUTH TABLE

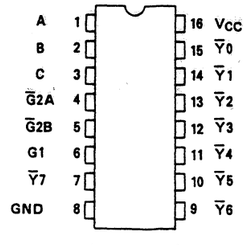
INPUTS G	A	OUTPUTS Y
L	X	Z
H	L	L
H	H	H

X:Don't Cate
Z: High impedance

— TC74HC133AF —
13-Input NAND Gate



— TC74HC138AP —
3 To 8 Line Decoder



(TOP VIEW)

TRUTH TABLE

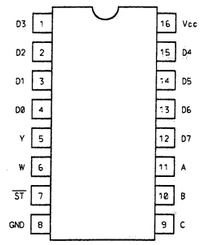
INPUTS ENABLE G1	G2A	G2B	SELECT C	B	A	OUTPUTS Y0	Y1	Y2	Y3	Y4	Y5	Y6	Y7	SELECTED OUTPUT
L	X	X	X	X	X	H	H	H	H	H	H	H	H	NONE
X	H	X	X	X	X	H	H	H	H	H	H	H	H	NONE
X	X	H	X	X	X	H	H	H	H	H	H	H	H	NONE
H	L	L	L	L	L	L	H	H	H	H	H	H	H	Y0
H	L	L	L	L	H	H	L	H	H	H	H	H	H	Y1
H	L	L	L	H	L	H	H	L	H	H	H	H	H	Y2
H	L	L	L	H	H	H	H	H	L	H	H	H	H	Y3
H	L	L	H	L	L	H	H	H	H	L	H	H	H	Y4
H	L	L	H	L	H	H	H	H	H	H	L	H	H	Y5
H	L	L	H	H	L	H	H	H	H	H	H	L	H	Y6
H	L	L	H	H	H	H	H	H	H	H	H	H	L	Y7

X : Don't Care

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— TC74HC151AF —

8-channel multiplexer

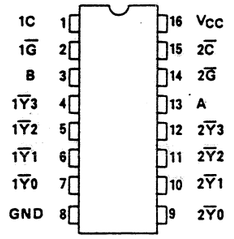


INPUTS				OUTPUTS	
SELECT			STROBE		
C	B	A	ST	Y	W
X	X	X	H	L	H
L	L	L	L	D0	$\overline{D0}$
L	L	H	L	D1	$\overline{D1}$
L	H	L	L	D2	$\overline{D2}$
L	H	H	L	D3	$\overline{D3}$
H	L	L	L	D4	$\overline{D4}$
H	L	H	L	D5	$\overline{D5}$
H	H	L	L	D6	$\overline{D6}$
H	H	H	L	D7	$\overline{D7}$

X Don't care

— TC74HC155AF —

Dual 2-to-4 Line Decoder/Dual 3-to-8 Line Decoder



(TOP VIEW)

TRUTH TABLE

INPUTS				OUTPUTS			
B	A	$\overline{1G}$	1C	$\overline{1Y0}$	$\overline{1Y1}$	$\overline{1Y2}$	$\overline{1Y3}$
X	X	H	X	H	H	H	H
L	L	L	H	L	H	H	H
L	H	L	H	H	L	H	H
H	L	L	H	H	H	L	H
H	H	L	H	H	H	H	L
X	X	X	L	H	H	H	H

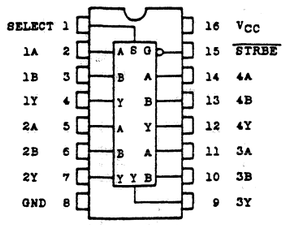
X : DON'T CARE

INPUTS				OUTPUTS			
B	A	2$\overline{G}$	2$\overline{C}$	2$\overline{Y0}$	2$\overline{Y1}$	2$\overline{Y3}$	2$\overline{Y3}$
X	X	H	X	H	H	H	H
L	L	L	L	L	H	H	H
L	H	L	L	H	L	H	H
H	L	L	L	H	H	L	H
H	H	L	L	H	H	H	L
X	X	X	H	H	H	H	H

X : DON'T CARE

— TC74HC157AF —

Quad 2-Channel Multiplexer



(Top View)

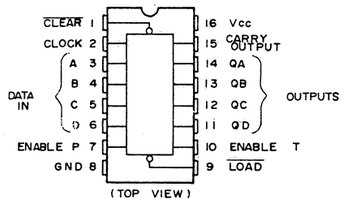
TRUTH TABLE

INPUTS				OUTPUT
$\overline{STROBE}$	SELECT	A	B	Y
H	*	*	*	L
L	L	L	*	L
L	L	H	*	H
L	H	*	L	L
L	H	*	H	H

* Don't Care

— TC74HC163AF —

Synchronous Presettable 4-Bit Counter, Binary Synchronous Clear



(TOP VIEW)

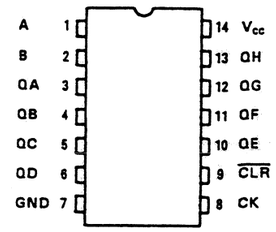
TRUTH TABLE

INPUTS					OUTPUTS				FUNCTION
$\overline{CLR}$	$\overline{LD}$	PE	TE	CK	Q_A	Q_B	Q_C	Q_D	
L	*	*	*		L	L	L	L	RESET TO "0"
H	L	*	*		A	B	C	D	PRESET DATA
H	H	*	L		NO CHANGE				NO COUNT
H	H	L	*		NO CHANGE				NO COUNT
H	H	H	H		COUNT UP				COUNT
*	*	*	H		NO CHANGE				NO COUNT

Note * : Don't Care
A, B, C, D : Logic Level of Data Inputs
Carry : CARRY = TE·Q_A·Q_B·Q_C·Q_D

— TC74HC164AF —

8-Bit Shift Register (S-IN, P-OUT)



(TOP VIEW)

TRUTH TABLE

INPUTS				OUTPUTS			
$\overline{CLR}$	CK	SERIAL IN		QA	QB	···	QH
		A	B				
L	X	X	X	L	L	···	L
H	⌐	X	X	NO CHANGE			
H	⌐	L	X	L	QAn	···	QGn
H	⌐	X	L	L	QAn	···	QGn
H	⌐	H	H	H	QAn	···	QGn

X: Don't Care
QAn ~ QGn : Respective levels of QA to QG outputs just before the rise of the clock pulse.

— TC74HC191AF —

4Bit Binary Up/Down Counter

(TOP VIEW)

TRUTH TABLE

INPUTS				OUTPUTS				FUNCTION
$\overline{LOAD}$	$\overline{ENABLE}$	D/$\overline{U}$	CLOCK	QA	QB	QC	QD	
L	X	X	X	A	B	C	D	PRESET DATA
H	L	L	↓	UP COUNT				UP COUNT
H	L	H	↓	DOWN COUNT				DOWN COUNT
H	H	X	↓	NO CHANGE				NO COUNT
H	X	X	↑	NO CHANGE				NO COUNT

NOTE X:DON'T CARE

— TC74HC221AF —

Dual Monostable Multivibrtor

(TOP VIEW)

TRUTH TABLE

INPUTS			OUTPUTS	
CLEAR	A	B	Q	$\overline{Q}$
L	×	×	L	H
×	H	×	L	H
×	×	L	L	H
H	L	↑	⌐	⌐
H	↓	H	⌐	⌐
↑	L	H	⌐	⌐

— TC74HC244AP —

Octal 3-State Outputs

TRUTH TABLE

1$\overline{G}$	1A	1Y	2$\overline{G}$	2A	2Y
L	L	L	L	L	L
L	H	H	L	H	H
H	L	Z	H	L	Z
H	H	Z	H	H	Z

— TC74HC245AP —

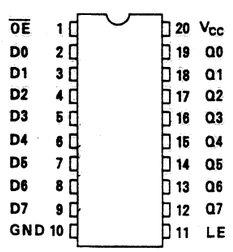
3 State Non-Inverting

— TC74HC541AP/AF —

Non-Inverted, 3 State Outputs

— TC74HC573AF —

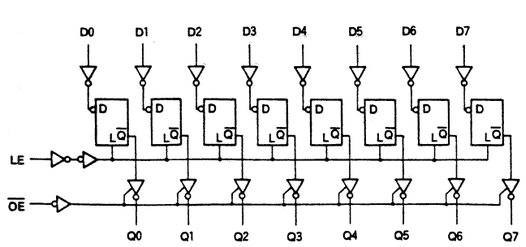
Octal Bus Buffer



TRUTH TABLE

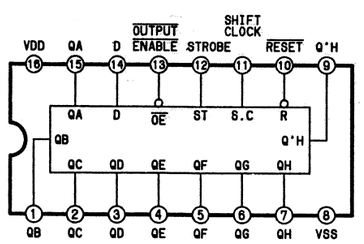
INPUTS			OUTPUTS
$\overline{OE}$	LE	D	Q(HC573A)
H	X	X	HZ
L	L	X	Q_n
L	H	L	L
L	H	H	H

X : Don't Care
Z : High Impedance
Qn : Q output level just before LE level becomes "L".



— TC74HC595AF —

8-Bit Shift Register With Output Latch



QA~QH:PARALLEL OUTPUTS
Q'H :SERIAL OUTPUT

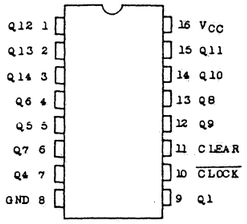
TRUTH TABLE

RCK	SCK	$\overline{SCLR}$	$\overline{G}$	FUNCTION
×	×	×	1	QA THRU QH=TRI-STATE
×	×	L	×	SHIFT REGISTER CLEARED QH'=0
×	↑	H	×	SHIFT REGISTER CLOCKED QN=Qn-1.QO=SER
↑	×	H	×	CONTENTS OF SHIFT REGISTER TRANSFERRED TO OUTPUT LATCHES

4-116

— TC74HC4020AP —

14-Stage Binary Counter



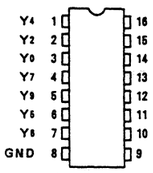
TRUTH TABLE

CLOCK	CLEAR	OUTPUT STATE
X	H	ALL OUTPUTS = 'L'
⎍	L	NO CHANGE
⎎	L	ADVANCE TO NEXT STATE

X : DON'T CARE

— TC74HC4028AP —

BCD -to- Decimal Decoder



(TOP VIEW)

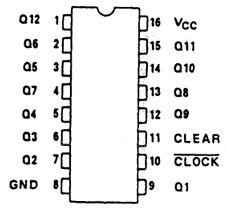
TRUTH TABLE

INPUTS				OUTPUTS										SELECTED OUTPUT
D	C	B	A	Y0	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	
L	L	L	L	H	L	L	L	L	L	L	L	L	L	Y0
L	L	L	H	L	H	L	L	L	L	L	L	L	L	Y1
L	L	H	L	L	L	H	L	L	L	L	L	L	L	Y2
L	L	H	H	L	L	L	H	L	L	L	L	L	L	Y3
L	H	L	L	L	L	L	L	H	L	L	L	L	L	Y4
L	H	L	H	L	L	L	L	L	H	L	L	L	L	Y5
L	H	H	L	L	L	L	L	L	L	H	L	L	L	Y6
L	H	H	H	L	L	L	L	L	L	L	H	L	L	Y7
H	L	L	L	L	L	L	L	L	L	L	L	H	L	Y8
H	L	L	H	L	L	L	L	L	L	L	L	L	H	Y9
H	X	H	X	L	L	L	L	L	L	L	L	L	L	NONE
H	H	X	X	L	L	L	L	L	L	L	L	L	L	NONE

X:Don't care

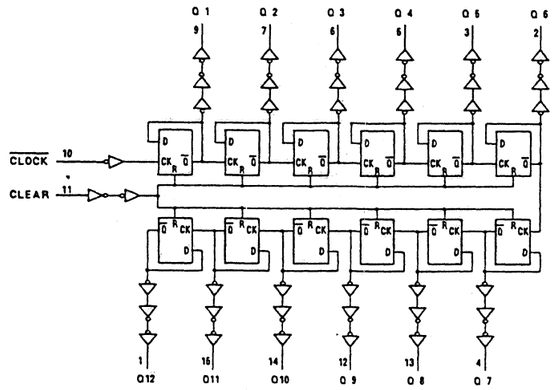
— TC74HC4040AF —

12-Stage Binary Counter



CLOCK	CLEAR	Output State
X	H	All Outputs are low
⎍	L	No Change
⎎	L	Advance to next state

X : DON'T CARE



— TC74HC4053AF —

Reference
TC4053BP/BF

— TC74HC4066AF/AP —

Reference
TC4066BP/BF

— TC74HC4538AF/AP —

Reference
TC4538BP

— TC74VHC04FS —

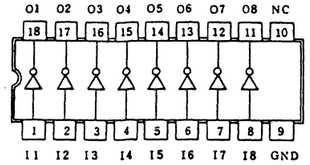
Reference
TC74HC04AF/AP

— TC74VHC157FS —

Reference
TC74HC157AF

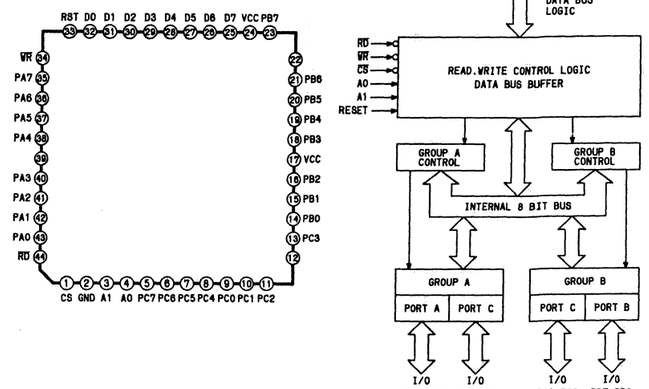
— TD62583AP —

8-single Driver



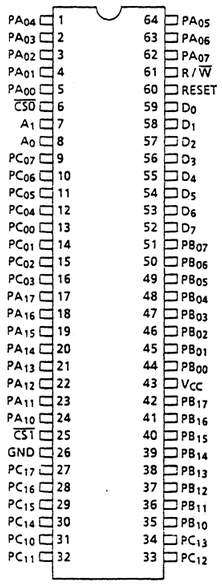
— TMP82C55AF-2 —

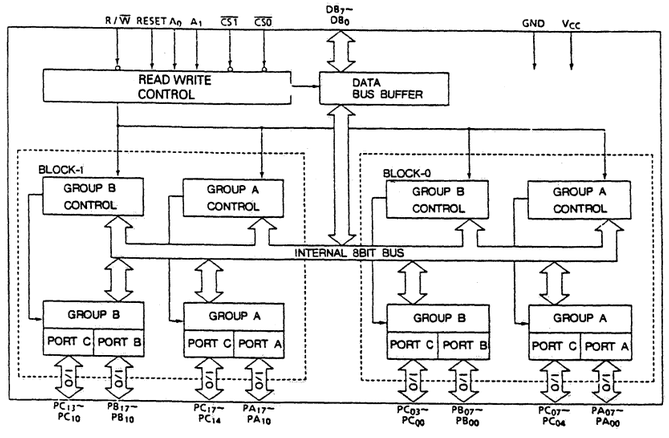
CMOS Programmablf Peripheral Interface



— TMP82C255AN-2 —

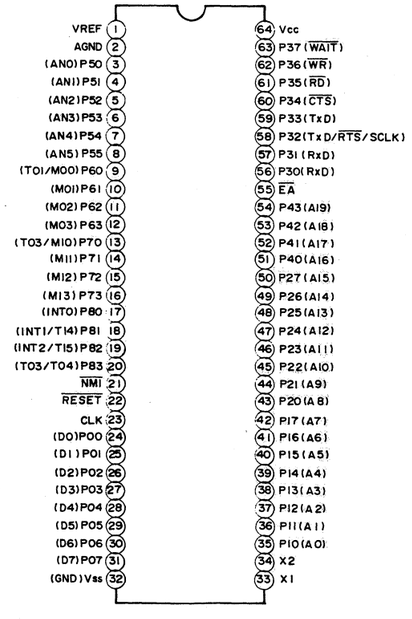
Programmable Peripheral Interface

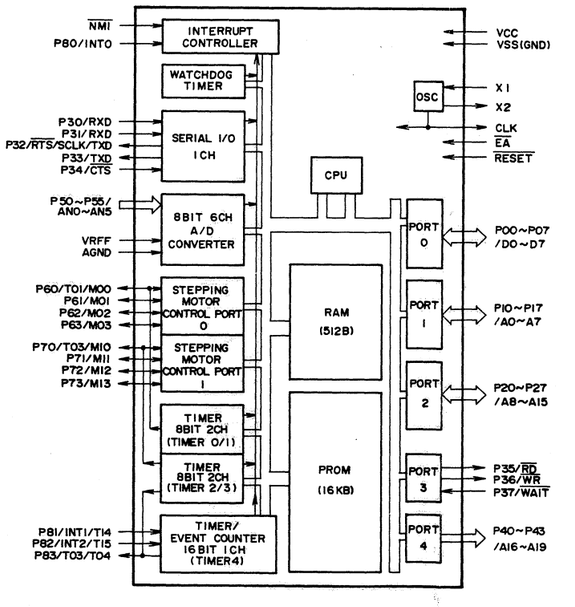




— TMP91C640N —

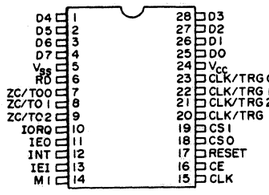
One Time Micro Computer





— TMPZ84C30AP-6 —

Counter Timer Circuit



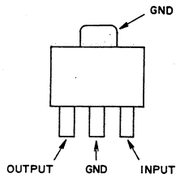
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— TL431CLP —
Regulator

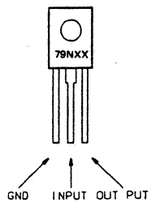


Pin1 REF
Pin2 CATHODE
Pin3 ANODE

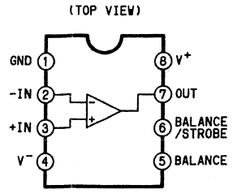
— μPC78L05T/12T —
Regulator



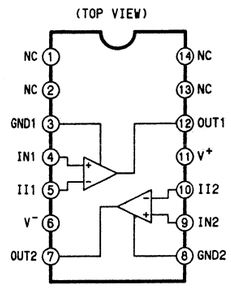
— μPC79N05H/12H —
Regulator



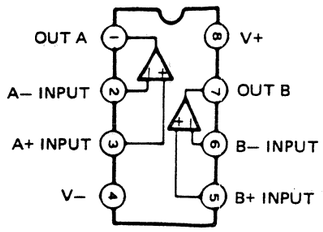
— μPC311C/G2 —
Voltage Comparator



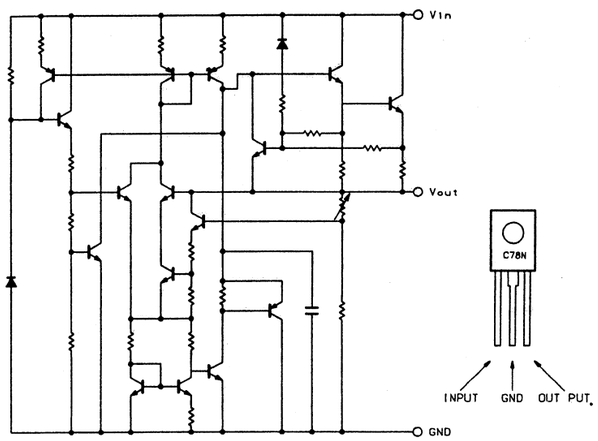
— μPC319C/G2 —
Dual comparator



— μPC358G2 —
Dual Operation Amplifier

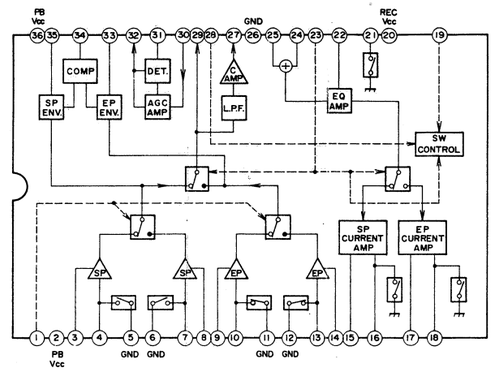


— μPC78N05H/12H —
Regulator

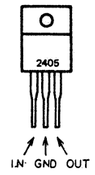


— μPC393C —
Reference
μPC358G2

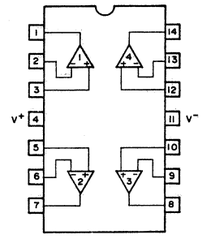
— μPC2320GS —
Head Amp (4 Head VTR)



— μPC2405HF —
Regulator

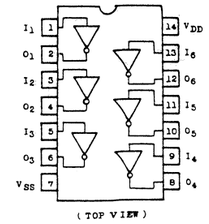


— μPC4074G2 —
Quad Operational Amplifier

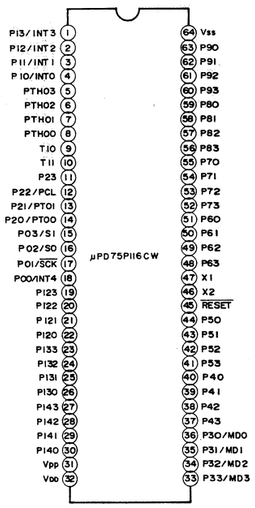


— μPC4082G2 —
Reference
μPC358G2

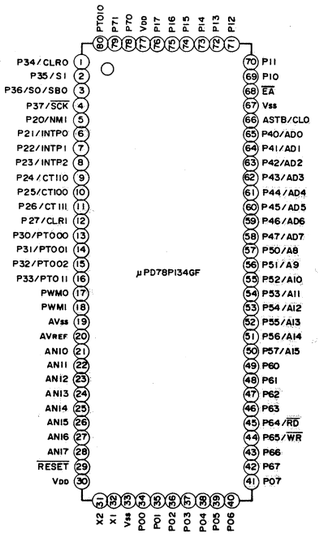
— μPD74HC04G —
Hex Inverter



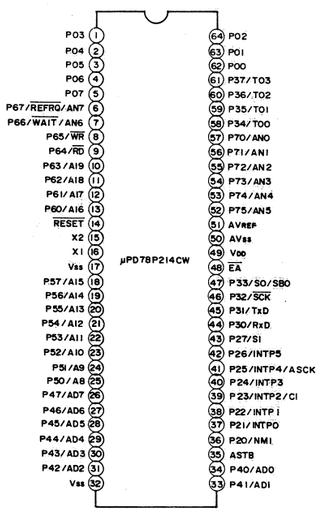
— μPD75P116CW —
8 Bit Micro Computer



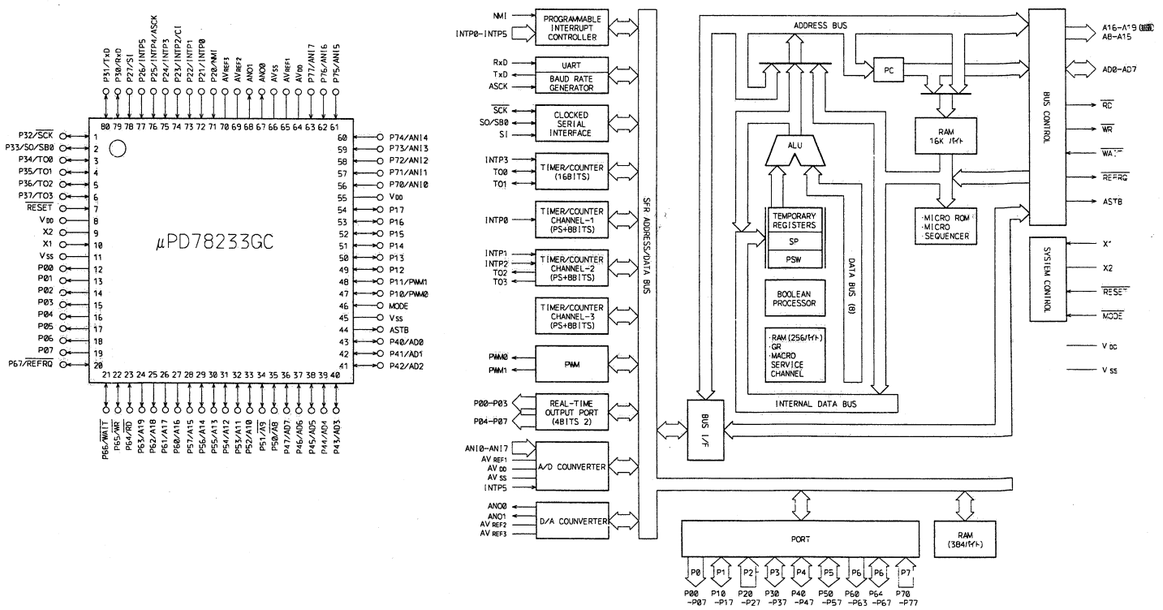
— μPD78P138GF —
8 Bit Micro Computer



— μPD78P214CW —
8 Bit Micro Computer

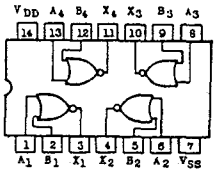


— μPD78233GC —
8 Bit Micro Computer

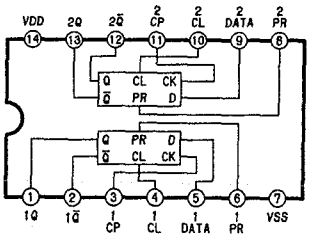


4-118

— μPD4001BG —
Quad 2 Input NOR Gate



— μPD4013BG —
Dual D-type Flip-Flop



TRUTH TABLE

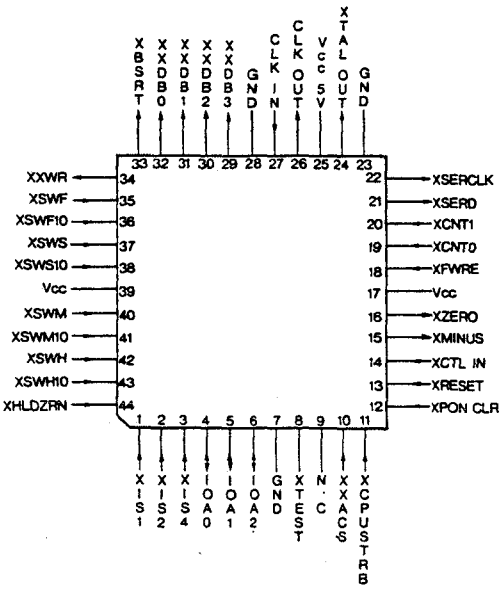
INPUTS				OUTPUTS	
CLOCK τ	DATA	RESET	SET	Q	$\bar{Q}$
↑	0	0	0	0	1
↑	1	0	0	1	0
↓	×	0	0	Q	$\bar{Q}$ NO CHANGE
×	×	1	0	0	1
×	×	0	1	1	0
×	×	1	1	1	1

X=DON'T CARE
τ=LEVEL CHANGE

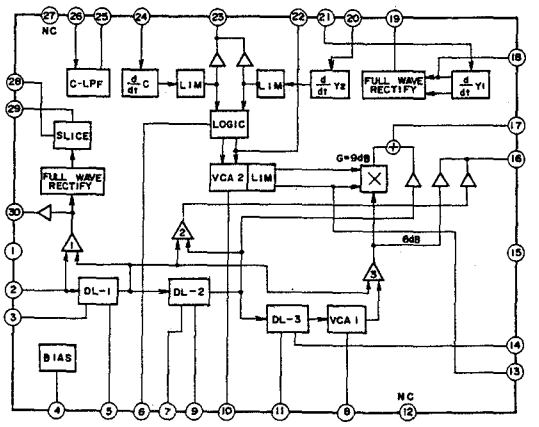
— μPD4053BG —
Reference
TC4053BP/BF

— μPD4066BG —
Reference
TC4066BP/BF

— VC2054 —
Real time Counter



— VC2520 —
Chroma Enhancer



PIN NO.	IN/OUT	PIN NAME	DESCRIPTION
1. CLOCK SIGNAL			
27	I	CKIN	CLOCK IN
26	O	XCKO	CLOCK OUT
24	O	XTALO	X'TAL OUT
2. SYSTEM CONTROL SIGNAL			
12	I	PCLR	POWER ON CLR
1	I	IS1	SIGNAL FORMAT SELECT S1
2	I	IS2	SIGNAL FORMAT SELECT S2
3	I	IS4	SIGNAL FORMAT SELECT S4
44	I	RUHO	RUN OR HOLD MODE SELECT IN
35	I	SWFR	FRAME PRESET SW
36	I	SWFT	10 FRAME PRESET SW
37	I	SWSC	SECOND PRESET SW
38	I	SWST	10 SECOND PRESET SW
40	I	SWMN	MINUTE PRESET SW
41	I	SWMT	10 MINUTE PRESET SW
42	I	SWHR	HOUR PRESET SW
43	I	SWHT	10 HOUR PRESET SW
19	I	CNT0	COUNTER MODE SELECT 0
20	I	CNT1	COUNTER MODE SELECT 1

S1	S2	S4	SIGNAL NAME	SYSTEM
H	H	H	NTSC DROP FRAME	525/60
L	H	H	NTSC NON DROP FRAME	525/60
L	L	H	PAL, SECAM	625/50
L	L	L	FILM	655/48

PIN NO.	IN/OUT	PIN NAME	DESCRIPTION
			CNT0 CNT1 MODE: H H 24H COUNT; H L 10H COUNT; L L WATCH. Specifications other than the above are not defined.
3. CTL SIGNAL			
14	I	CTLI	CTL SIGNAL IN
18	I	FRE	CTL DIRECTION SIGNAL IN
13	I	RESET	CTL RESET IN
4. DATA OUTPUT & OUTPUT CONTROL SIGNAL			
4	I, O	AD0	ADRESS DATA IN/OUT
5	I, O	AD1	
6	I, O	AD2	
10	I	XACS	ADRESS LINE OUTPUT ENABLE
32	O	XDO0	DATA OUT
31	O	XDO1	
30	O	XDO2	
29	O	XDO3	
34	O	XWR	WRITE SIGNAL OUT (NEGATIVE LOGIC)
11	I	CPURDZ	CPU READ SIGNAL IN (NEGATIVE LOGIC)
33	O	BSRT	BUSY REAL TIME COUNTER
21	O	RTSDTO	REAL TIME DATA OUT
22	O	RTSCKO	REAL TIME SERIAL CLOCK OUT
16	O	ZFLG	ZERO FLAG OUT
15	O	MFLG	MINUS FLAG OUT

SECTION 5
EXPLODED VIEWS AND PARTS LIST

SAFETY PRECAUTION

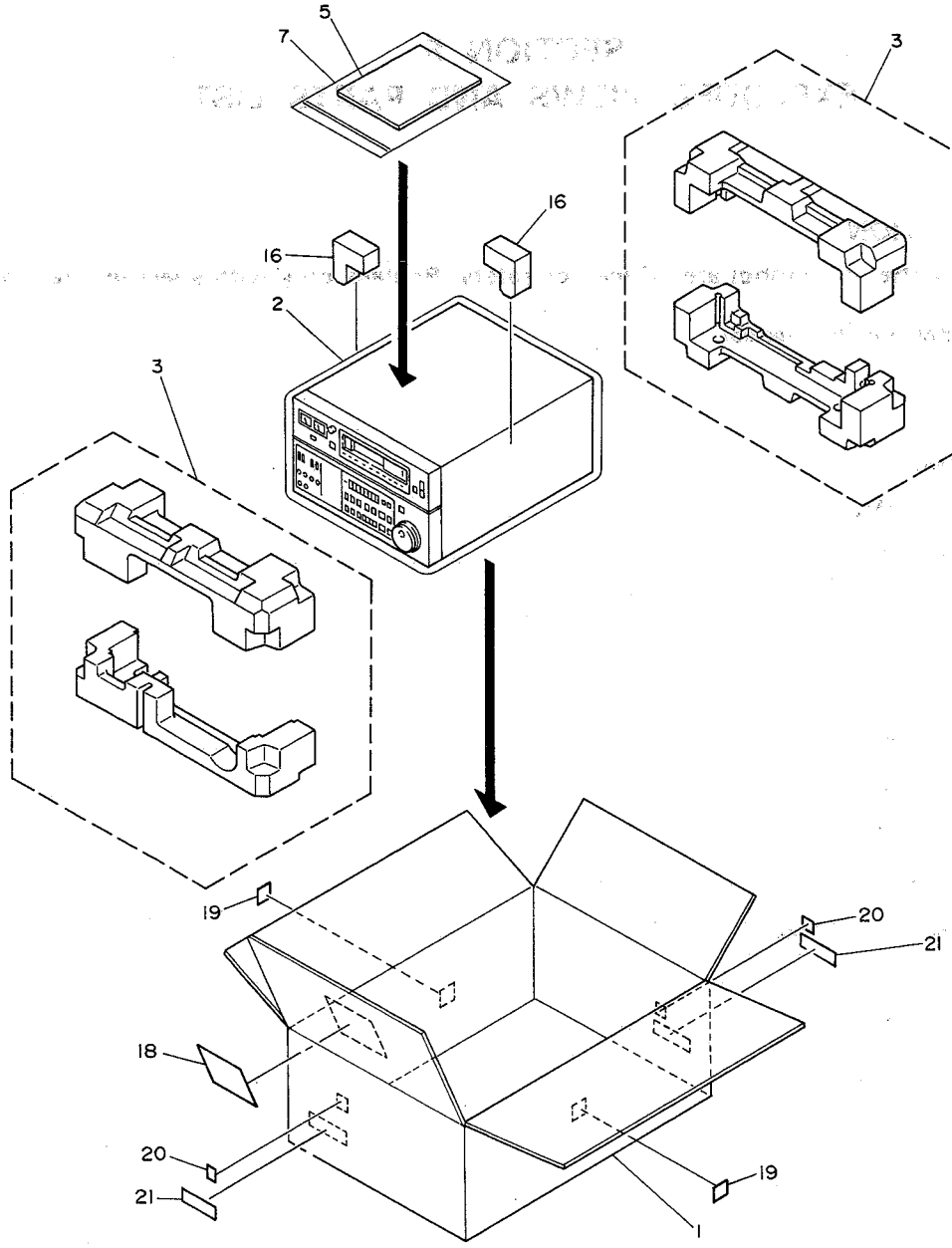
Parts identified by the ⚠ symbol are critical for safety. Replace only with specified part numbers.

NOTE: "X " indicates quantity per set.

Page

5.1 Packing assembly <M1> 5-2
5.2 Cabinet assembly <M2> 5-4
5.3 Chassis assembly <M3> 5-6
5.4 Frame assembly <M4> 5-8
5.5 Rear frame assembly <M5> 5-10
5.6 Mechanism-1 assembly <M6> 5-12
5.7 Mechanism-2 assembly <M7> 5-14
5.8 Cassette housing assembly <M8> 5-16
5.9 Drum assembly <M9> 5-18
5.9.1 Drum assembly - BR-S525E - <M9A> 5-18
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5.10 Front panel assembly 5-19
5.10.1 Cassette panel <MA> 5-19
5.10.2 Operation panel <MB> 5-20

5.1 Packing assembly <M1>



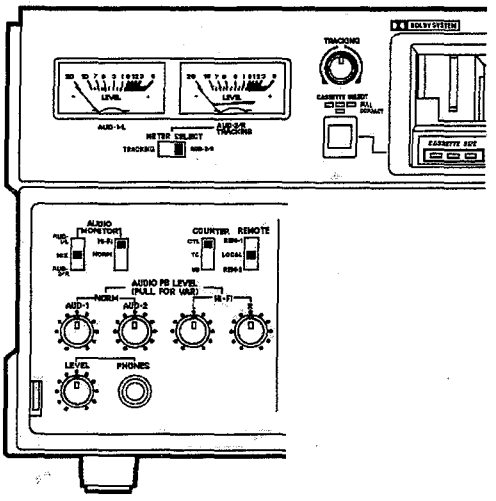
PACKING ASSEMBLY M1

M1MM□□□□

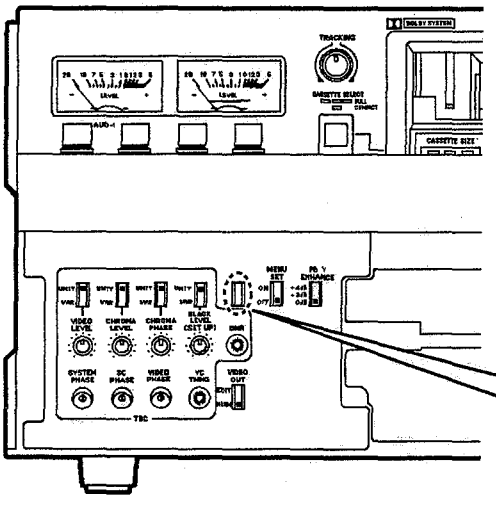
⚠ REF No.	PART No.	PART NAME, DESCRIPTION
1	PRD20370-12	PACKING CASE, 525
	PRD20370-08	PACKING CASE, 522
2	PGD30005-05	PE BAG
3	PRD10251A-02	CUSHION ASSY
⚠ 5	PGD30002-301-01	INSTRUCTIONS, 525
⚠	PGD30002-299-01	INSTRUCTIONS, 522
7	QPGB024-03404	POLY BAG
16	PRD30848	SPACER CUSHION, ×2
18	PRD30913-03	LABEL
19	PRD30913-02	LABEL, ×2
20	PRD43892-05	LABEL(PACKING), ×2
21	PRD43892-04	LABEL(PACKING), ×2

- Initial setting of front and rear panel switches at shipment.

— FRONT PANEL —



— FRONT SUB PANEL —

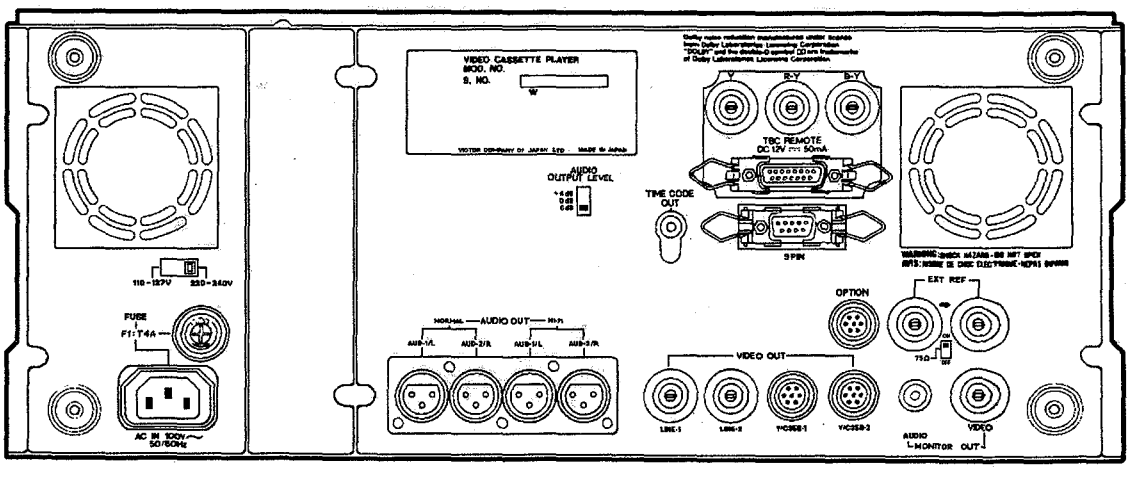


- BR-S525E : PB HEAD switch VT position
- BR-S522E : TBC switch OFF position

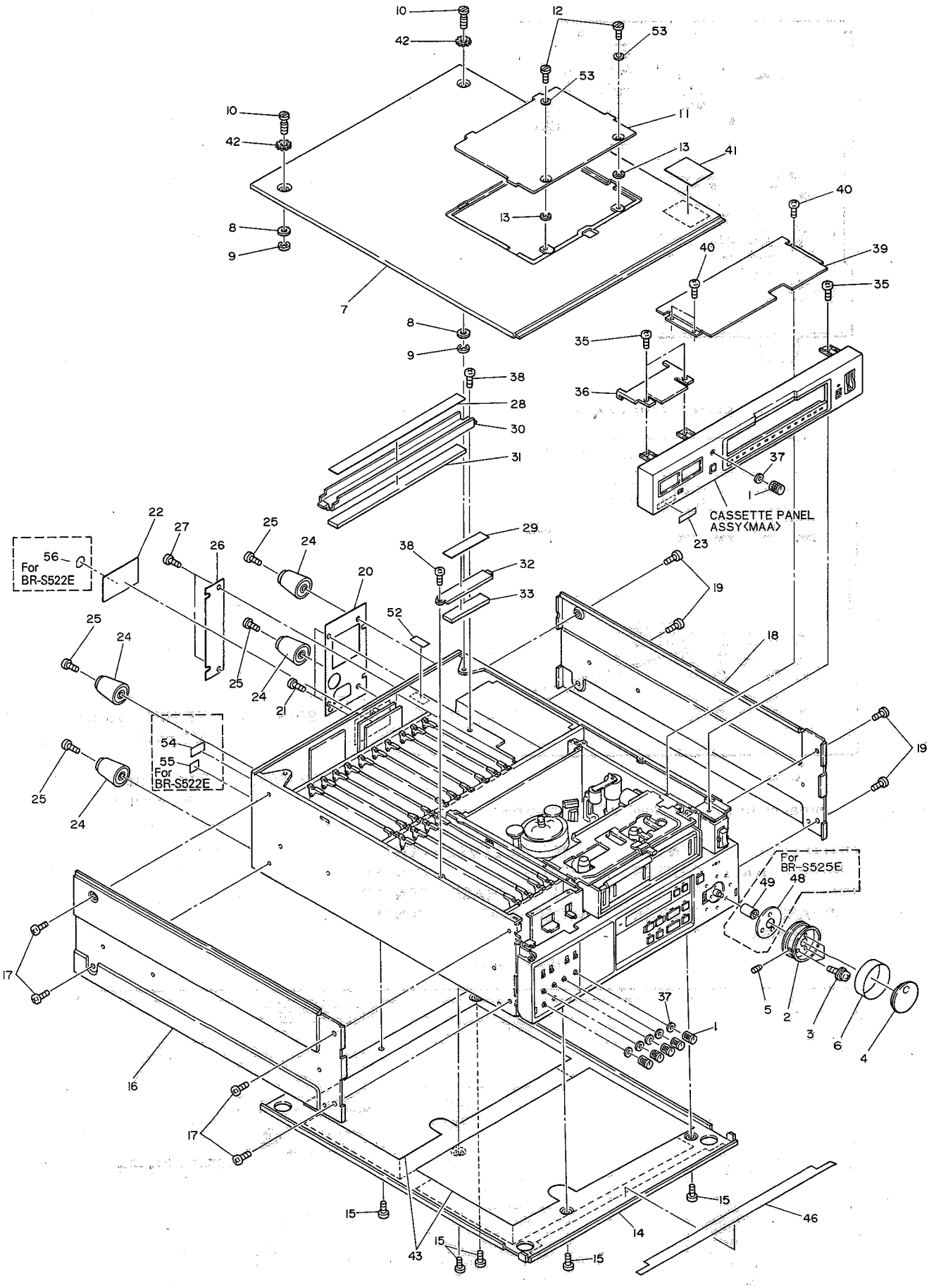
— Initial setting of sub panel VR's at shipment. —

VIDEO LEVEL	: CENTER	CHROMA LEVEL	: CENTER
CHROMA PHASE	: CENTER	SET UP	: CENTER
DNR	: 7	SYSTEM PHASE	: CENTER
SC PHASE	: CENTER	VIDEO PHASE	: CENTER
Y/C TIMING	: 8		

— REAR PANEL —



5.2 Cabinet assembly <M2>

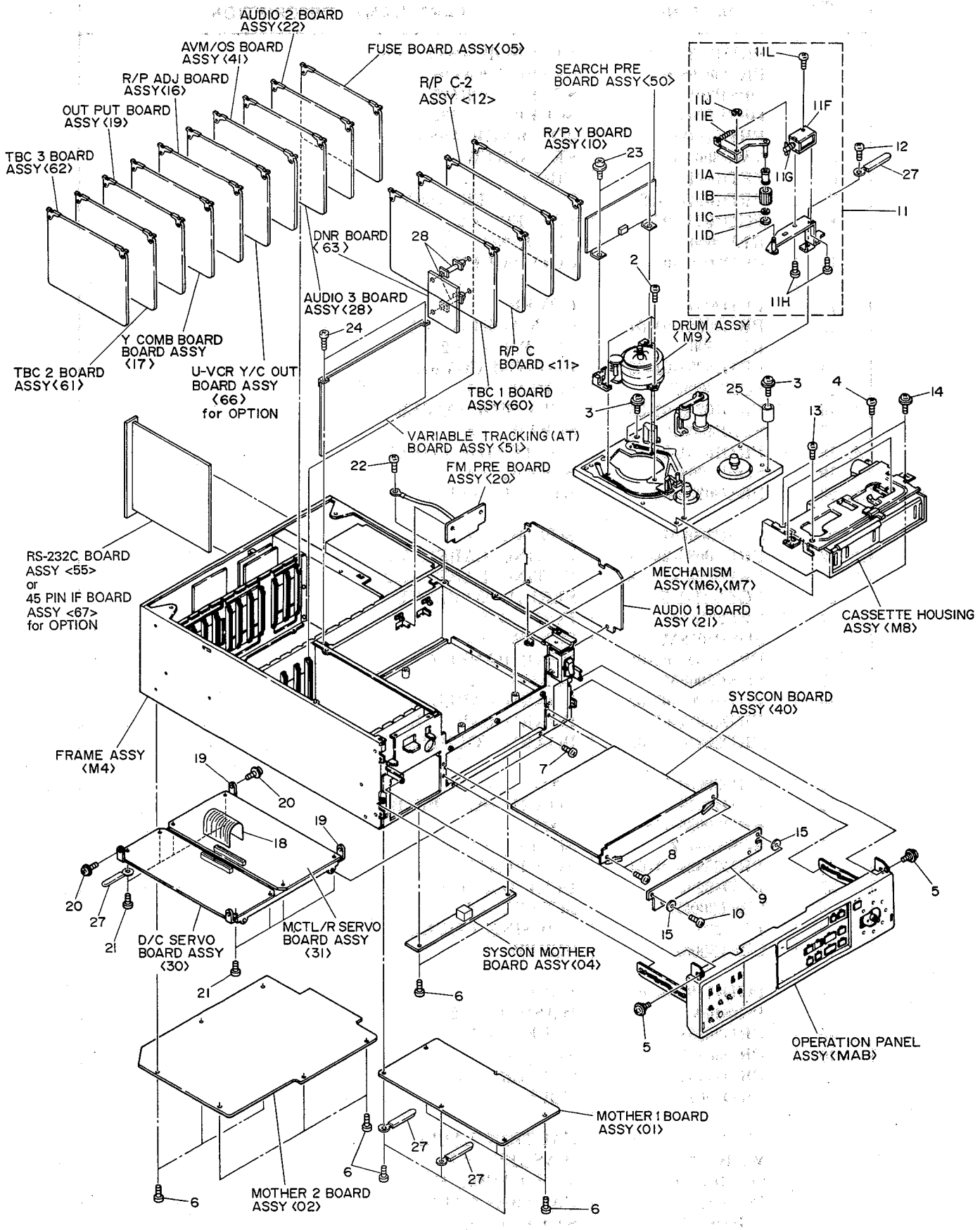


CABINET ASSEMBLY M2

M2MM□□□□

⚠ REF No.	PART No.	PART NAME, DESCRIPTION
1	PRD43431A-01	VR KNOB ASSY, ×6
2	PRD30196-03	SEARCH KNOB
3	DPSP2012Z	SCREW, ×3(525)
	DPSP2006Z	SCREW, ×3(522)
4	PRD41819B	JOG KNOB ASSY
5	YWS3004B	SET SCREW
6	PRD41818	TIRE
7	PRD10247A-02	TOP COVER ASSY
8	PGD40255-02	SPACER, ×2
9	REE3000	"E" RING, ×2
10	PRD30081-03	COIN SCREW, ×2
11	PRD30841	COVER
12	PRD30081-01-01	COIN SCREW, ×2
13	REE2500	"E" RING, ×2
⚠ 14	PRD10232-01-03	BOTTOM COVER
15	SDST3008Z	SCREW, ×5
⚠ 16	PRD10233-01-03	LEFT SIDE COVER
17	SDSP4008R	SCREW, ×4
⚠ 18	PRD10234-01-03	RIGHT SIDE COVER
19	SDSP4008R	SCREW, ×4
⚠ 20	PRD30730-03	REAR PANEL(B)
21	SDSP3006M	SCREW, ×2
⚠ 22	PRD30085-26-18	RATING LABEL, 525
⚠	PRD30085-16-18	RATING LABEL, 522
23	PQ40111-1-5	SERIAL NO.PLATE
24	QZF2319-001	FOOT, ×4
25	SDSP4018M	SCREW, ×4
⚠ 26	PRD43423-01-02	REAR PANEL(C)
27	SDSP3006M	SCREW, ×2
28	PRD30802-02-02	BOARD LABEL(A)
29	PRD43611-02-02	BOARD LABEL(B)
30	PRD30840-01-02	BOARD HOLDER(A)
31	PRD30030-117	PAD
32	PRD44218	BOARD HOLDER(B)
33	PRD30030-118	PAD
35	SDST3008Z	SCREW, ×3
36	PRD30835-01-01	TOP PLATE(L)
37	PGD40292	FELT WASHER, ×6
38	SBST3006Z	SCREW, ×2
39	PRD20412	HOUSING COVER
40	SBST3006Z	SCREW, ×3
41	PGD41496-05-01	LABEL
42	WBS4000N	WASHER, ×2
43	PRD30858	SHEET, ×2
46	PRD30861	SPACER
48	PRD44134	SPACER, 525
49	PRD30026-47	COLLAR, 525
⚠ 52	PU54551	CAUTION LABEL
53	WNB3000N	WASHER, ×2
54	QZL1010-001	TUV LABEL, 522
55	PGD41228	CAUTION LABEL, 522
56	PGD40197	STICKER, 522

5.3 Chassis assembly <M3>



CHASSIS ASSEMBLY M3

M3MM□□□□

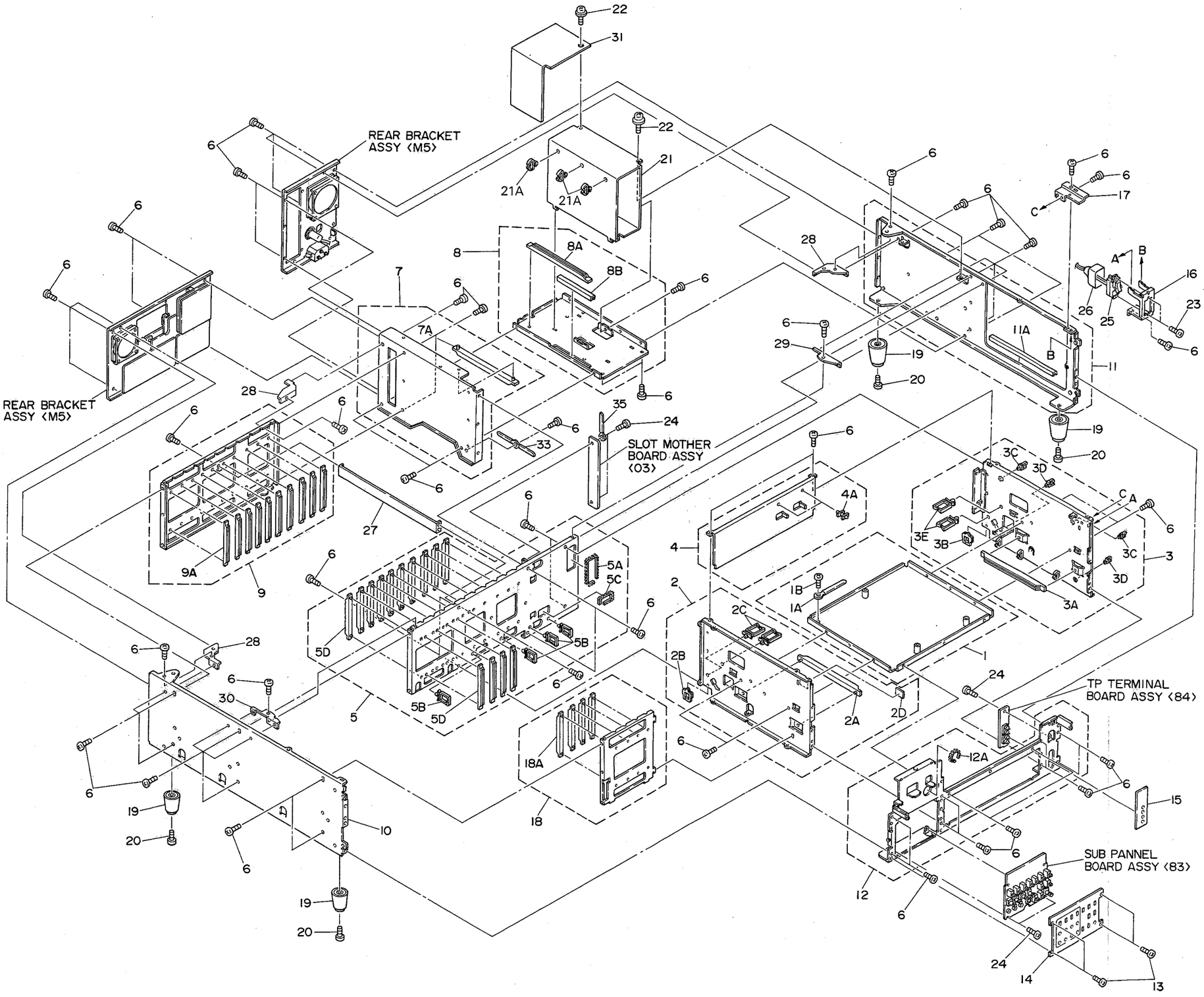
⚠ REF No.	PART No.	PART NAME, DESCRIPTION
2	LPSP2612Z	SCREW, ×3
3	LPSP4016Z	SCREW, ×3
4	SDSP2604M	SCREW, ×2
5	PRD30082	FLANGE SCREW, ×2
6	GBST3006Z	SCREW, ×14
7	SDSP3006M	SCREW, ×2
8	SDSP3006M	SCREW, ×2
9	PRD30767	COVER
10	PRD43457-01-01	SPECIAL SCREW, ×2
11	PRD30797A-03	HEAD CLEANER ASSY
11A	PRD42664	CLEANER HOLDER
11B	PRD40510-01-02	CLEANER
11C	Q03093-829	WASHER
11D	PQM30017	SLIT WASHER
11E	PRD30024-62	TENSION SPRING
⚠ 11F	PU59401-2	SOLENOID
11G	PRD30023-36	COMPRESSION SPRING
11H	SPSP2003Z	SCREW, ×2
11J	REE2500	"E" RING
12	PRD30027-04	SCREW
13	SDSP2608Z	SCREW, ×2
14	GBST3008Z	SCREW, ×2
15	Q03093-517	WASHER, ×2
18	PGW0205-030100	FLAT WIRE
19	PRD30762-01-02	BOARD BRACKET, ×2
20	PRD30082	FLANGE SCREW, ×2
21	GBST3006Z	SCREW, ×8
22	SBST3006Z	SCREW
23	PRD30027-04	SCREW, ×2(525)
24	SDST3008Z	SCREW, ×2(525)
25	PRD44048	COLLAR, ×2
27	PU49485-4	WIRE CLAMP, ×4
28	PGZ01786-02	BOARD SPACER, 525(FOR DNR)

FRAME ASSEMBLY M4

M4MM□□□□

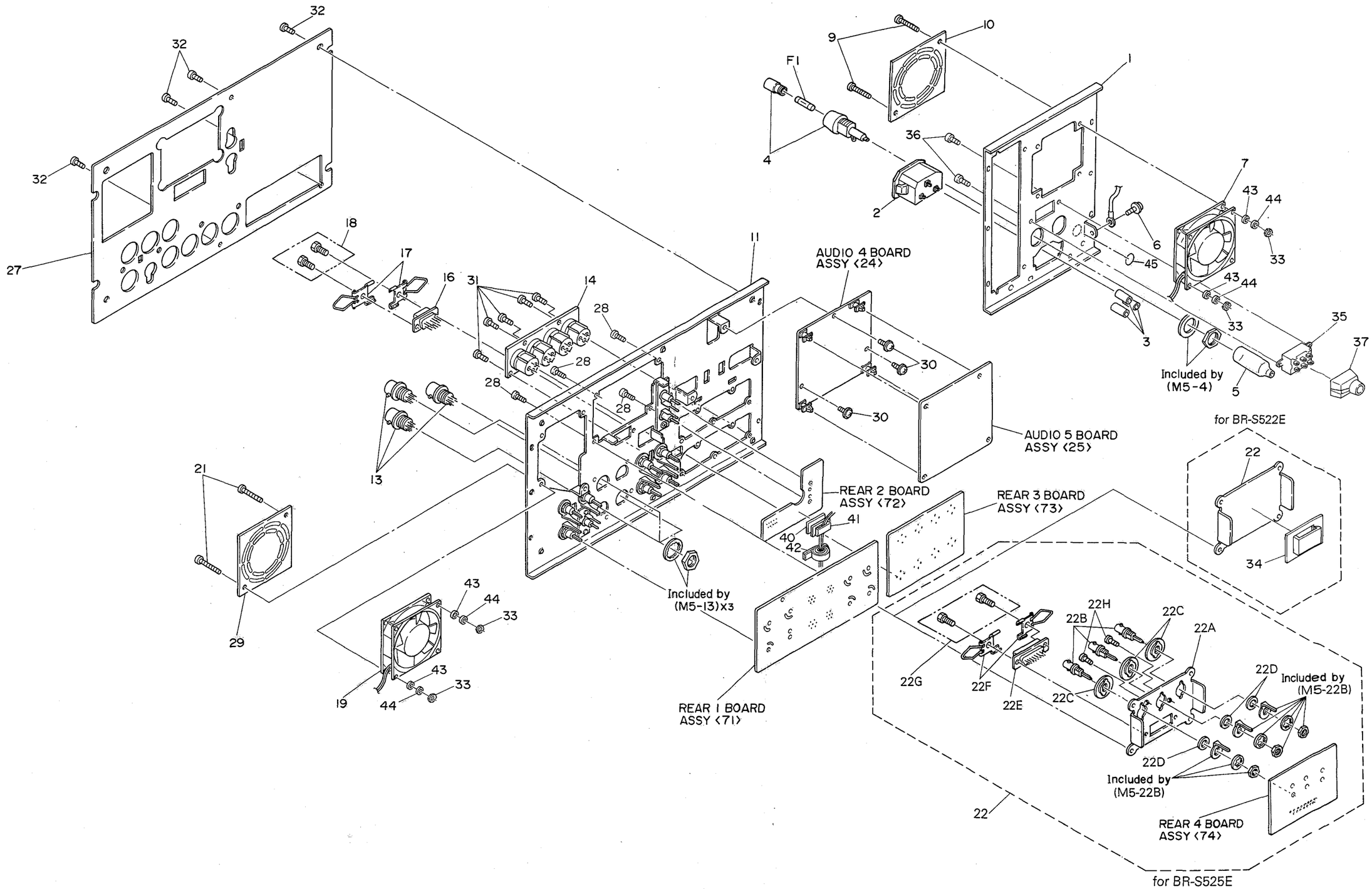
⚠ REF No.	PART No.	PART NAME, DESCRIPTION
1	PRD20354A-06	MECHA HOLDER ASSY
1A	PU49485-4	WIRE CLAMP
1B	SBST3006Z	SCREW
2	PRD20374A-05	LEFT STAY ASSY
2A	PGZ00493-03	GUIDE RAIL
2B	PU49881	EDGE COVER
2C	PU43147-3	WIRE SADDLE, ×2
2D	PRD30030-70	PAD
3	PRD20375A-06	RIGHT STAY ASSY
3A	PGZ00493-03	GUIDE RAIL
3B	PU49881	EDGE COVER
3C	PGZ00605	BOARD SPACER, ×2
3D	PGZ00606	BOARD HOLDER, ×2
3E	PU43147-3	WIRE SADDLE, ×2
4	PRD20378A-02	CENTER BRACKET ASSY
4A	PU55353-2	DOUBLE LOCKING SPACER, ×2
5	PRD20366A-06	CENTER FRAME ASSY
5A	PU43172-9-120	NYLON GROMMET
5B	PGZ00452-02	WIRE CLAMP, ×4
5C	PU43172-9-65	NYLON GROMMET
5D	PGZ00493-02	GUIDE RAIL, ×14
6	SBST3006Z	SCREW, ×61
7	PRD20376A-01	GUIDE FRAME ASSY
7A	PGZ00493-03	GUIDE RAIL
8	PRD20377A-03	POWER FRAME ASSY
8A	PGZ00493-03	GUIDE RAIL
8B	PU43135-1-100	NYLON EDGGING
9	PRD20367A-03	REAR FRAME(C)ASSY
9A	PGZ00493-02	GUIDE RAIL, ×10
10	PRD10237-01-03	LEFT SIDE FRAME
11	PRD10273A-01	RIGHT SIDE FRAME ASSY
11A	PU43153-1-200	NYLON EDGGING
12	PRD10248A-04	FRONT FRAME ASSY
12A	PU43172-9-89	NYLON GROMMET
13	SPST3006M	SCREW, ×4
14	PRD30736-02-05	SUB PANEL(A), 522
	PRD30736-04-05	SUB PANEL(A), 525
15	PRD43433	SUB PANEL(B)
16	PRD30739-01-04	POWER SWITCH BRACKET ASSY
17	PRD43708	TOP PLATE(R)
18	PRD30743A-01	FRONT BRACKET ASSY
18A	PGZ00493-02	GUIDE RAIL, ×4
19	PRD43816	FOOT, ×4
20	SBST3010Z	SCREW, ×4
⚠ 21	PGZ01652	SWITCHING REGULATOR
22	DPSP4008Z	SCREW, ×2
23	LPSP3006Z	SCREW, ×2
24	GBST3006Z	SCREW, ×5
⚠ 25	QSE2A21-L01	POWER SWITCH
⚠ 26	PRD42023	SWITCH COVER
27	PRD30836	CONNECTOR STAY
28	PRD43700	CORNER BRACKET, ×3
29	PRD43709-02	BRACKET (A)
30	PRD43709	BRACKET
⚠ 31	PRD30857	INSULATOR
33	PU49486	WIRE CLAMP
35	PU49485-2	WIRE CLAMP

5.4 Frame assembly <M4>



5-9

5.5 Rear frame assembly <M5>



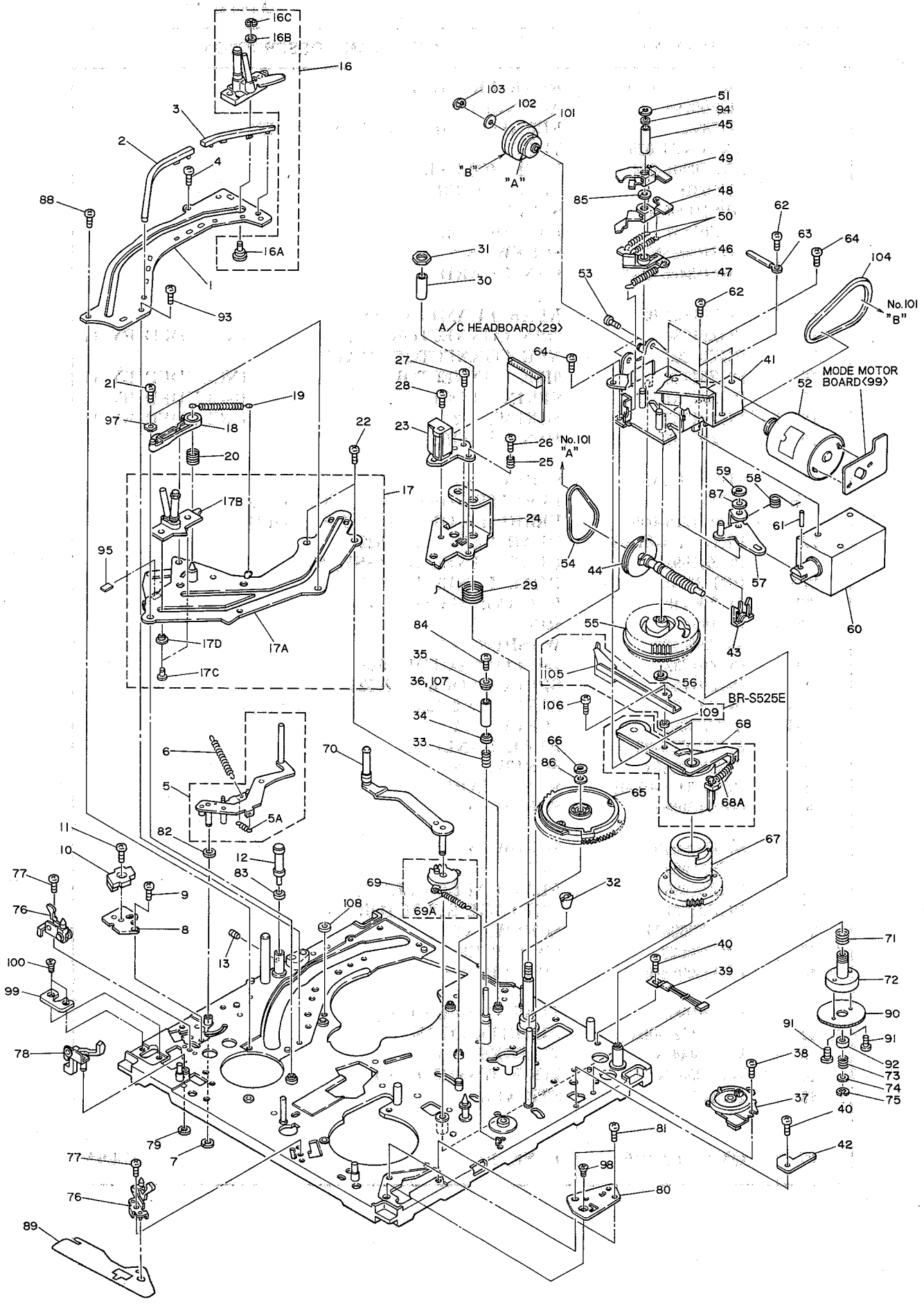
5-10

REAR FRAME ASSEMBLY M5

M5MM□□□□

⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
1	PRD20365-01-04	REAR FRAME(B)	
⚠ 2	PGZ00760	AC INLET	
⚠ 2A	PU58903	FERRITE CORE, NOT INCLUDED	
3	QXT6B0H-025	TUBE	
⚠ 4	QMG0301-004	FUSE HOLDER	
⚠ 5	PU50316	FUSE COVER	
⚠ 6	DPSP4008N	SCREW	
⚠ 7	PGZ01137	FAN MOTOR	
9	SDSP3025M	SCREW, ×2	
10	PRD43465-01-01	FAN GUARD	
11	PGZ01822-02	REAR FRAME(A) ASSY	
13	PGZ01730	7PIN CONNECTOR, ×3	INCLUDED BY 11
14	PGZ01208	XLR CONNECTOR, MALE	
16	PGZ01733	9PIN CONNECTOR	INCLUDED BY 11
17	PGZ01734	SPRING LOCK, ×2	INCLUDED BY 11
18	PGZ01735	SCREW, ×2	INCLUDED BY 11
⚠ 19	PGZ01137	FAN MOTOR	
21	SDSP3025M	SCREW, ×2	
⚠ 21B	PGZ01317	FERRITE CORE, NOT INCLUDED	
⚠	or PGZ01226-009	FERRITE CORE, NOT INCLUDED	
⚠ 22	PRD43424-01-03	REAR PANEL(D), 522	
	PGZ01698	REAR PANEL(D) ASSY, 525	
22A	PRD30870	REAR PANEL(D), 525	
22B	PGZ00440	BNC CONNECTOR, ×3	
22C	PU486114	RING, ×3	
22D	Q03093-439	WASHER, ×3	
22E	PGZ01732	15P CONNECTOR, 525	
22F	PGZ01734	SPRING LOCK, ×2(525)	
22G	PGZ01735	SCREW, ×2(525)	
22H	SDSF3006M	SCREW, ×2	
⚠ 27	PRD30729-06	REAR PANEL(A)	
28	SDSP3006M	SCREW, ×8	
29	PRD43465-01-01	FAN GUARD	
30	GBST3006Z	SCREW, ×3	
31	SPSP2605N	SCREW, ×5	
33	NFS3000Z	NUT, ×4	
34	PGZ01086	FLAT CABLE CLIP, 522	
⚠ 35	PGZ01701	VOLTAGE SELECTOR	
36	SDSF2608M	SCREW, ×2	
⚠ 37	PRD42023	SW COVER	
40	PRD30083-03	SPACER, ×2	
41	PGZ01086	FLAT CABLE CLIP	
⚠ 42	PGZ01225-005	FERRITE CORE	
43	WNS3000N	WASHER, ×4	
44	WLS3000N	LOCK WASHER, ×4	
⚠ 45	PU44457	STICKER	
⚠ F1	QMF51E2-4R0	FUSE, F1	T4.0A

5.6 Mechanism-1 assembly <M6>



MECHANISM 1 ASSEMBLY M6

M6MM□□□□

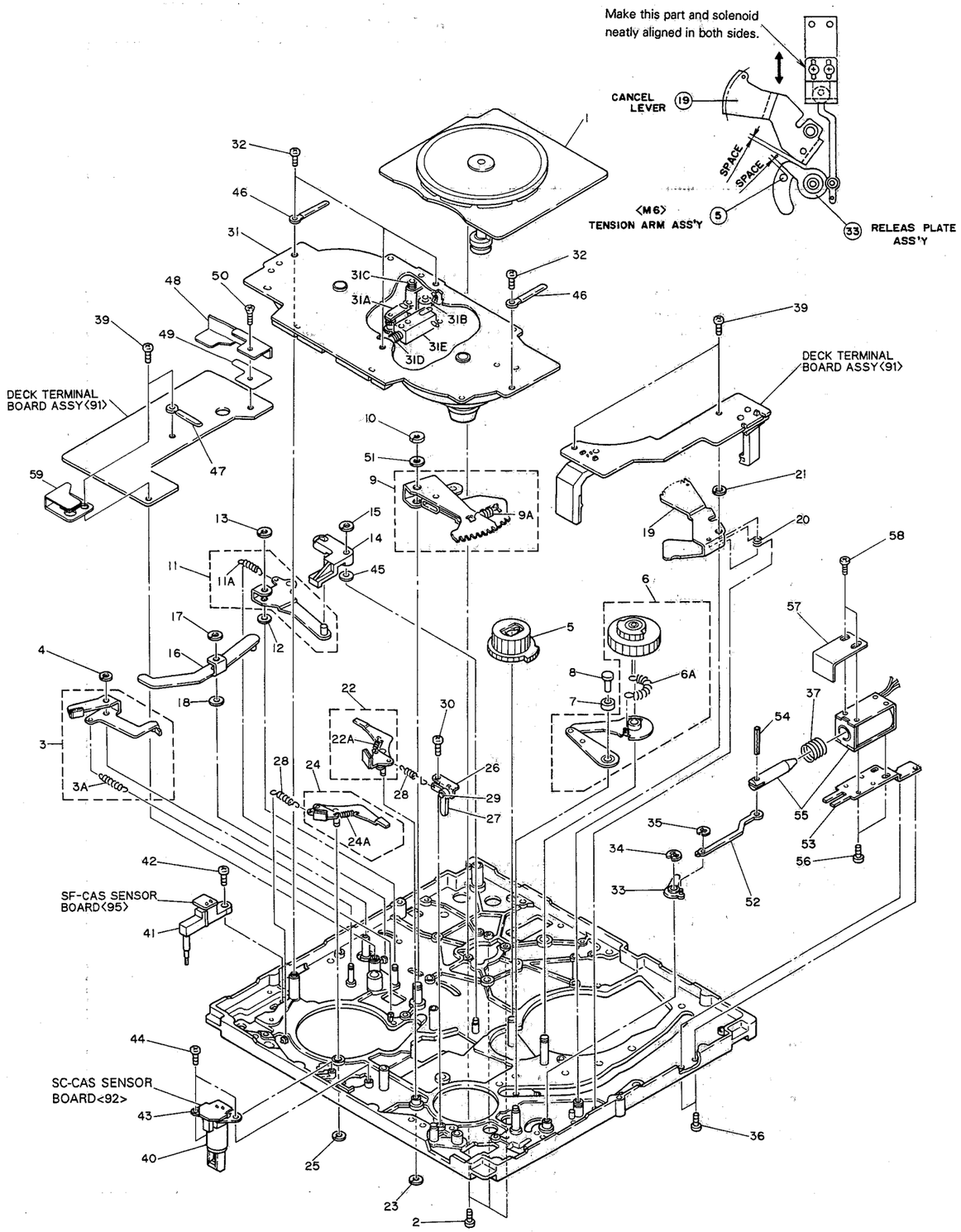
⚠ REF No.	PART No.	PART NAME, DESCRIPTION
1	PRD30764-01-05	SUB DECK, SUPPLY
2	PQ33995	GUIDE RAIL 2, SUPPLY
3	PQ33994	GUIDE RAIL 1, SUPPLY
4	SDSP2604Z	SCREW
5	PRD44024B-02	TENSION ARM ASSY
5A	PRD30024-65	TENSION SPRING
6	PRD43714	TENSION SPRING
7	PQM30017	SLIT WASHER
8	PRD43466-01-02	TENSION SENSOR BASE
9	SDSP2003Z	SCREW
10	PU61338	TENSION SENSOR
11	SDSP2604Z	SCREW
12	PRD43721A	GUIDE ROLLER ASSY
13	YFS2603B	SET SCREW
16	PRD30821D-06	POLE BASE ASSY
16A	PRD43671-01-02	STOPPER(S2)
16B	Q03093-829	WASHER
16C	REE1500	"E" RING
17	PRD43747A-05	LOADING ASSY, TAKE-UP
17A	PRD43746A-03	GUID RAIL ASSY, TAKE-UP
17B	PRD30864B	POLE BASE ASSY, TAKE-UP
17C	PRD43819	SPECIAL SCREW, × 2
17D	PRD43875	COLLAR
18	PQ34000	C.GUIDE ARM
19	PQM30001-317	TENSION SPRING
20	PQM30002-207	COMPRESSION SPRING
21	SDSP2604Z	SCREW, × 3
22	SDSP2608M	SCREW, × 2
23	PGZ01840	AUDIO/CONTROL HEAD
24	PQ34008	HEAD ARM
25	PQM30002-197	COMPRESSION SPRING
26	SDSP2612Z	SCREW
27	PQ44621	SPECIAL SCREW
28	PQ43687B	SPECIAL SCREW
29	PQ44119	TORSION SPRING
30	PQ44541	SPACER
31	PQ44630	NYLON NUT
32	PQ45181	TAPER NUT
33	PRD30023-45	COMPRESSION SPRING
34	PRD43670-01-01	TAPE GUARD
35	PRD43732	GUIDE FLANGE
36	PRD44111	SLEEVE
37	PU61339-1-1	ROTARY ENCORDER
38	SDSP2004Z	SCREW
39	PU61357	DEW SENSOR
40	SDSP2004Z	SCREW, × 2
41	PRD43380B-05	MOTOR BRACKET ASSY
42	PRD43745	SPACER
43	PQ44129	WORM BEARING 2
44	PRD44015A	WORM GEAR ASSY
45	PQ45278	COLLAR
46	PQ33992-1-1	LOCK LEVER 1
47	PQM30001-313	TENSION SPRING
48	PQ45279	LOCK LEVER 2
49	PQ33993-1-2	LOCK LEVER 3
50	PQM30001-314	TENSION SPRING, × 2
51	PQM30017-6	SLIT WASHER
52	PRD44016A	MODE MOTOR ASSY
53	SPSP3003Z	SCREW, × 2
54	PRD30022-16	BELT
55	PQ21313-1-1	CAM GEAR

M6MM□□□□

⚠ REF No.	PART No.	PART NAME, DESCRIPTION
56	PQM30017-12	SLIT WASHER
57	PRD43383A-02	SOLENOID LEVER ASSY
58	PRD43386	TORSION SPRING
59	PQM30017-12	SLIT WASHER
⚠ 60	PGZ01590	SOLENOID
61	PSE3010	SPRING PIN
62	DPSP3005Z	SCREW, × 3
63	PU49485-4	WIRE CLAMP
64	SDSP2604Z	SCREW, × 4
65	PQ21315-1-2	CONTROL CAM
66	PQM30017-28	SLIT WASHER
67	PQ21312	PINCH ROLLER CAM
68	PRD43387A-01	PINCH ROLLER ARM ASSY, 522
or	PRD43387B-01	PINCH ROLLER ARM ASSY, 522
68	PRD43387C	PINCH ROLLER ARM ASSY, 525
or	PRD43387D	PINCH ROLLER ARM ASSY, 525
68A	PRD30024-60	TENSION SPRING
69	PRD43791A-01	GUIDE ARM GEAR ASSY
69A	PRD30024-64	TENSION SPRING
70	PRD43404D-03	GUIDE ARM ROLLER ASSY
71	PRD30023-48	COMPRESSION SPRING
72	PRD43800	BUSHING
73	PRD30023-49	COMPRESSION SPRING
74	WSS3000Z	WASHER
75	REE2500	"E" RING
76	PRD44248A	GUIDE PIN ASSY, × 2
77	SDSP2605Z	SCREW, × 2
78	PRD44184A	REC SAFETY ASSY
79	PQM30017-6	SLIT WASHER
80	PRD43889	SOCKET R
81	SDSP2604Z	SCREW, × 2
82	Q03093-838	WASHER
83	PQ45294	"O" RING
84	PRD43165	SPECIAL SCREW
85	Q03093-819	WASHER
86	Q03093-849	WASHER
87	Q03093-818	WASHER
88	SDSP2608M	SCREW
89	PRD44243A	ADJUST ASSY
90	PRD43802	ADJUST GEAR
91	SPSP2004Z	SCREW, × 2
92	PRD43804	COLLAR
93	SPSH2635M	MINI SCREW
94	Q03093-819	WASHER
95	PRD43826	SPACER
97	PRD44013-02	STOPPER PLATE
98	SSSP2606Z	SCREW
99	PRD43890	SOCKET L
100	SSSP2606Z	SCREW, × 2
101	PRD43968	CONNECT PULLEY
102	Q03093-829	WASHER
103	REE1200	"E" RING
104	PRD30022-12	BELT
105	PRD43901-01-02	NOISE SHUTTER, 525
106	DPSP3006Z	SCREW, 525
107	PRD44110	GUIDE ROLLER
108	PRD44141	SPACER
109	PRD30029-05	WASHER, 525

5-13

5.7 Mechanism-2 assembly <M7>



MECHANISM 2 ASSEMBLY M7

M7MM□□□□

⚠ REF No.	PART No.	PART NAME, DESCRIPTION
⚠ 1	PGZ01535-01-01	CAPSTAN MOTOR
2	SDSP2608Z	SCREW, ×3
3	PRD43479A-01	REEL BRAKE ASSY
3A	PRD30024-58	TENSION SPRING
4	PQM30017-6	SLIT WASHER
5	PQ34033	LOADING GEAR, TAKE-UP
6	PRD43473A-02	LOADING GEAR ASSY, SUPPLY
6A	PQM30001-318	TENSION SPRING
7	PRD44019	COLLAR
8	PRD43818	STOPPER(S1)
9	PQ45306B-3	ARM GEAR ASSY
9A	PQM30001-320	TENSION SPRING
10	REE3000	"E" RING
11	PQ45304A	F.LOCK LEVER ASSY
11A	PQM30001-319	TENSION SPRING
12	Q03093-825	WASHER
13	PQM30017-6	SLIT WASHER
14	PQ34005-1-2	LOCK ARM
15	PQM30017-6	SLIT WASHER
16	PRD43464A	HOUSING LEVER ASSY
17	PQM30017-6	SLIT WASHER
18	Q03093-825	WASHER
19	PQ34007	CANCEL LEVER
20	PQ45313	TORSION SPRING
21	PQM30017-12	SLIT WASHER
22	PRD43388A-02	BRAKE LEVER(L)ASSY, SUPPLY
22A	PRD30024-53	TENSION SPRING
23	PQM30017-6	SLIT WASHER
24	PRD43395A-02	BRAKE LEVER(R) ASSY
24A	PRD30024-53	TENSION SPRING
25	PQM30017-6	SLIT WASHER
26	PRD43397A-01	LEVER BASE ASSY
27	PRD43400	F/C LEVER
28	PRD43401	TENSION SPRING, ×2
29	PQM30017-25	SLIT WASHER
30	SDSP2604Z	SCREW
⚠ 31	PGZ01541A-04	REEL MOTOR
31A	PGZ01541-001	IDLER GEAR ASSY
31B	PGZ01541-002	LED HOLDER ASSY
31C	PGZ01541-003	COMPRESSION SPRING
31D	PGZ01541-004	COMPRESSION SPRING
31E	PGZ01541-005	SOLENOID
32	SDSP2604Z	SCREW, ×4
33	PRD43485A	RELEASE PLATE ASSY
34	REE3000	"E" RING
35	REE1500	"E" RING
36	SDSP2608Z	SCREW, ×2
37	PRD30023-35	COMPRESSION SPRING
39	SDSP2604Z	SCREW, ×4
40	PU61174	CASSETTE SWITCH, (C-S)
41	PU61008	CASSETTE SWITCH,(F-S)
42	SDSP2605Z	SCREW
43	PRD43467-01-01	C.S.SWITCH BASE
44	SDSP2603Z	SCREW, ×2
45	Q03093-825	WASHER

5-14

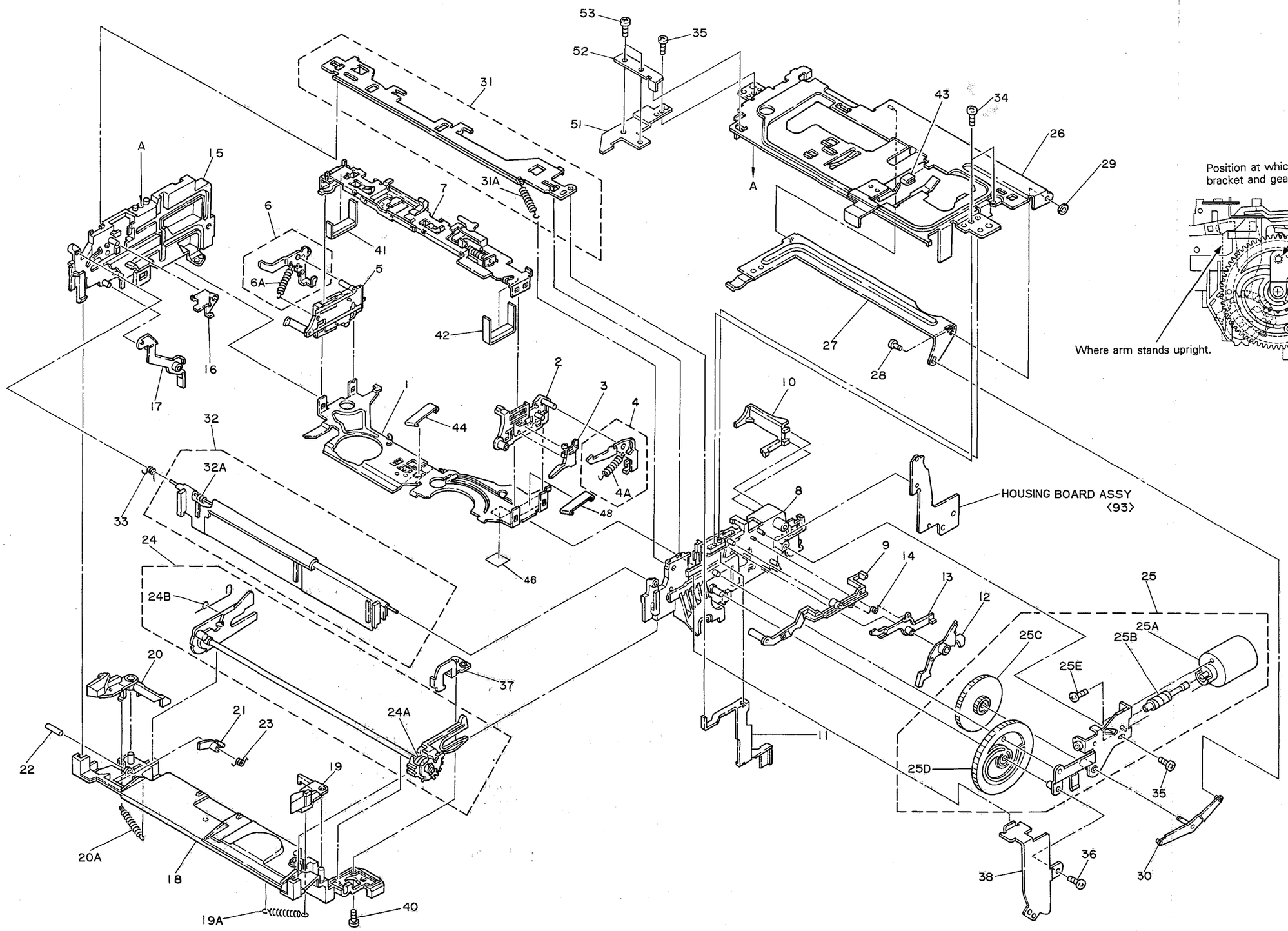
⚠ REF No.	PART No.	PART NAME, DESCRIPTION
46	PU49485-4	WIRE CLAMP, ×2
47	PU49485-4	WIRE CLAMP
48	PRD43982	PLATE
49	PRD43984	SHEET
50	SDSP2606Z	SCREW
51	Q03093-833	WASHER
52	PRD43487-01-01	CONNECTING PLATE
53	PRD43486	PLATE
54	PSE2516	SPRING PIN
⚠ 55	PGZ01623	SOLENOID
56	SPSP2603Z	SCREW, ×2
57	PRD43824	STOPPER
58	SPSH2628Z	MINI SCREW, ×2
59	PRD44006A	STOPPER ASSY

CASSETTE HOUSING ASSEMBLY M8

M8MM□□□□

⚠ REF No.	PART No.	PART NAME, DESCRIPTION
	PGS20745C-15	CASSETTE HOUSING ASSY
1	PQ34092A-03	CASSETTE HOLDER ASSY
2	PQ11278-01-01	SIDE HOLDER(R)
3	PQ45459	LID OPENER
4	PQ43596A-5	LOCK LEVER(R) ASSY
4A	PQ43597-1-5	TENSION SPRING
5	PQ11279	SIDE HOLDER(L)
6	PQ45539A-01	LOCK LEVER(L) ASSY
6A	PQ43597-2	TENSION SPRING
7	PQ21327A-09	HOLDER STAY ASSY
8	PQ11281-01-06	HOUSING STAY(R)
9	PQ34096	DOOR SENSOR
10	PQ34097	LID GUIDE
11	PQ45477	FC CHENGE LEVER
12	PQ34098	SENSOR LEVER
13	PQ34099	C INSERT LEVER
14	PQ45478	TORSION SPRING
15	PQ11282-01-06	HOUSING STAY(L)
16	PQ45479-01-02	DOOR STOPPER
17	PQ34100	DOOR OPENER
18	PQ11283-01-03	FRONT BRACKET
19	PQ45480A-02	DOOR LOCK(R) ASSY
19A	PQM30001-340	TENSION SPRING
20	PQ45481A-03	DOOR LOCK(L) ASSY
20A	PQM30001-340	TENSION SPRING
21	PQ45482	C DOOR LOCK
22	PQM30015-93	SHAFT
23	PQ45483-01-01	TORSION SPRING
24	PQ34103A-03	MAIN ARM ASSY
24A	PRD43806	TORSION SPRING
24B	PQ43605	TORSION SPRING
25	PQ34107A-02	DRIVE UNIT ASSY
25A	PQ45489A	MOTOR ASSY
25B	PQ45474	WORM GEAR
25C	PQ34109	CONNECT GEAR
25D	PQ34110-01-01	IDLER CAM
25E	SPSP3003Z	SCREW, ×2
26	PQ34111A-05	TOP FRAME ASSY
27	PQ34112A-01	HOLD PLATE ASSY
28	PQ45464	PIN
29	PQM30017-25	SLIT WASHER
30	PQ45493A	HOLD LEVER ASSY
31	PQ34128A-02	FC PLATE ASSY
31A	PQM30001-341	TENSION SPRING
32	PQ34114B-07	DOOR ASSY
32A	PQ45496-01-02	TORSION SPRING
33	PRD44021	TORSION SPRING
34	SDSF2606Z	SCREW, ×3
35	SDSF2608Z	SCREW, ×2
36	SDSF2612Z	SCREW
37	PRD43729	BASE BRACKET
38	PRD43730	GEAR BRACKET
40	SDSP2603Z	SCREW
41	PRD43776-01-01	TEPHRON SHEET
42	PRD43776-02-01	TEPHRON SHEET
44	PRD30030-87	PAD
46	PRD30030-71	PAD
48	PRD30030-72	PAD
51	PRD44177	C DOOR STOPPER
52	PRD44178	STOPPER
53	SDSP2603Z	SCREW, ×2

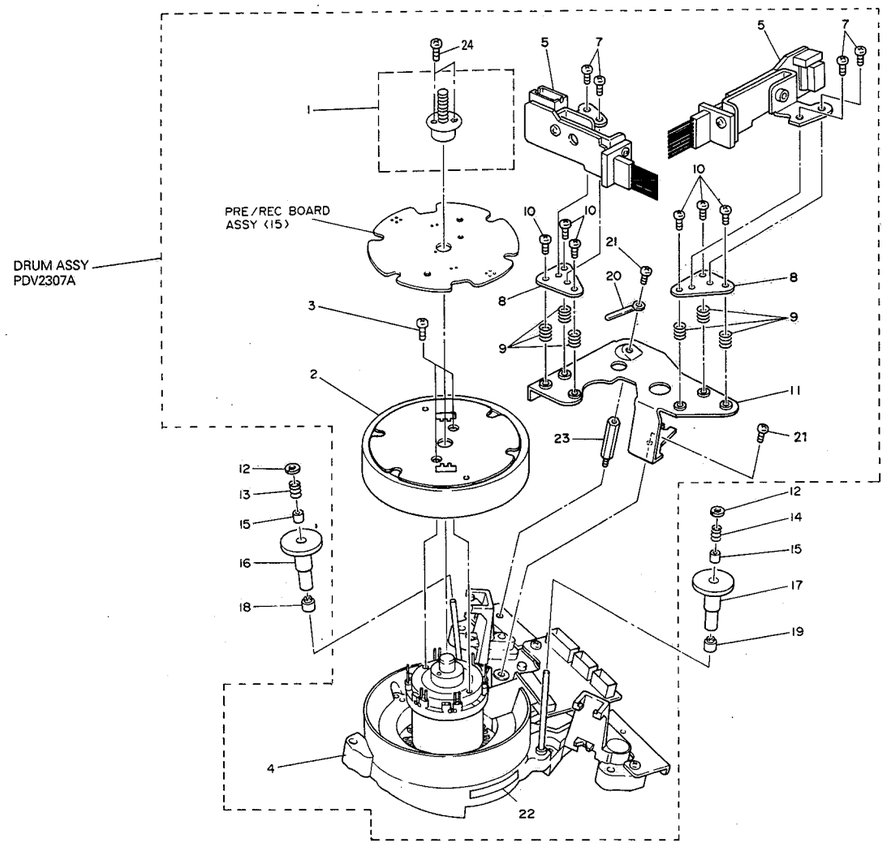
5.8 Cassette housing assembly <M8>



5-17

5.9 Drum assembly <M9>

5.9.1 Drum assembly (BR-S525E) <M9A>

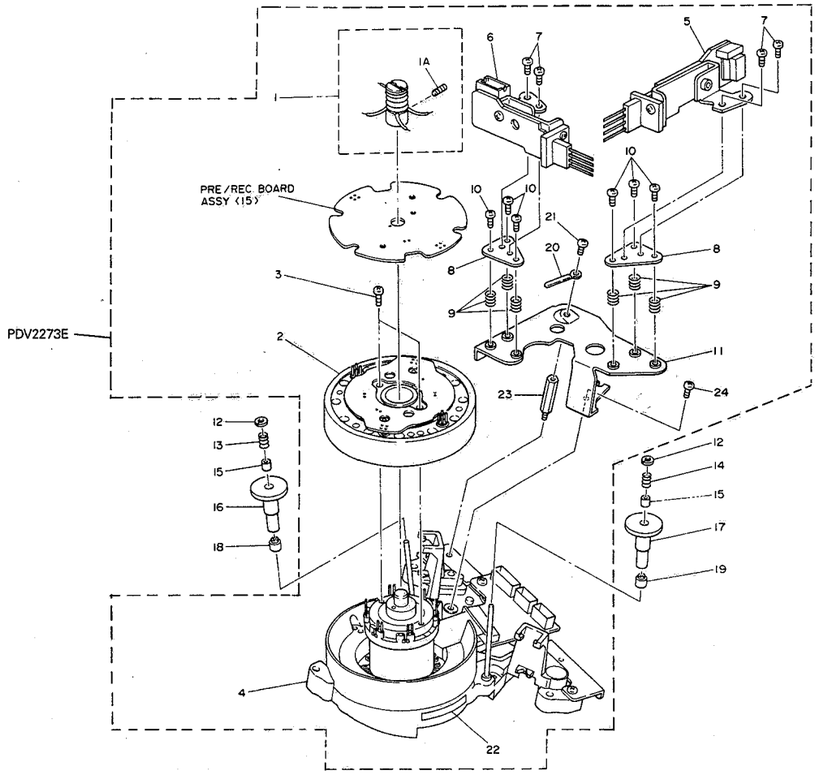


DRUM ASSEMBLY M9 - 525E -

M9MM□□□□

⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
⚠		PDV2307A	DRUM ASSY, 525	
	1	PGZ01760-06	SLIP RING ASSY	
	2	PRD20448B	UPPER DRUM ASSY	
	3	PDM4264A	DRUM SCREW ASSY, ×2	
	4	PRD20382F-10	LOWER DRUM MOTOR ASSY	
	5	PRD43938A	BRUSH SUB ASSY, ×2	
	7	BYS2605FS	S.BOLT, ×4	
	8	PRD43978	MOUNT PLATE, ×2	
	9	PRD30023-51	COMPRESSION SPRING, ×6	
	10	BYS2606FS	S.BOLT, ×6	
	11	PRD30921-02	BRUSH BASE	
	12	PQM30017-25	SLIT WASHER, ×2	NOT INCLUDED
	13	PRD30023-42	COMPRESSION SPRING(S),	NOT INCLUDED
	14	PRD30023-52	COMPRESSION SPRING(T),	NOT INCLUDED
	15	PRD43675	COLLAR, ×2	NOT INCLUDED
	16	PGZ01667-04	INERTIA ROLLER ASSY(S),	NOT INCLUDED
	17	PGZ01667-03	INERTIA ROLLER ASSY(T),	NOT INCLUDED
	18	PRD43675-02	COLLAR (S),	NOT INCLUDED
	19	PRD43675-03-01	COLLAR (T),	NOT INCLUDED
	20	PU49485-3	WIRE CLAMP	
	21	PRD30027-04	SPECIAL SCREW, ×2	
	22	PDM4067	PART NO.LABEL	
	23	PRD43979	STUD	
	24	SPBK1711M	SCREW, ×2	

5.9.2 Drum assembly (BR-S522E) <M9B>



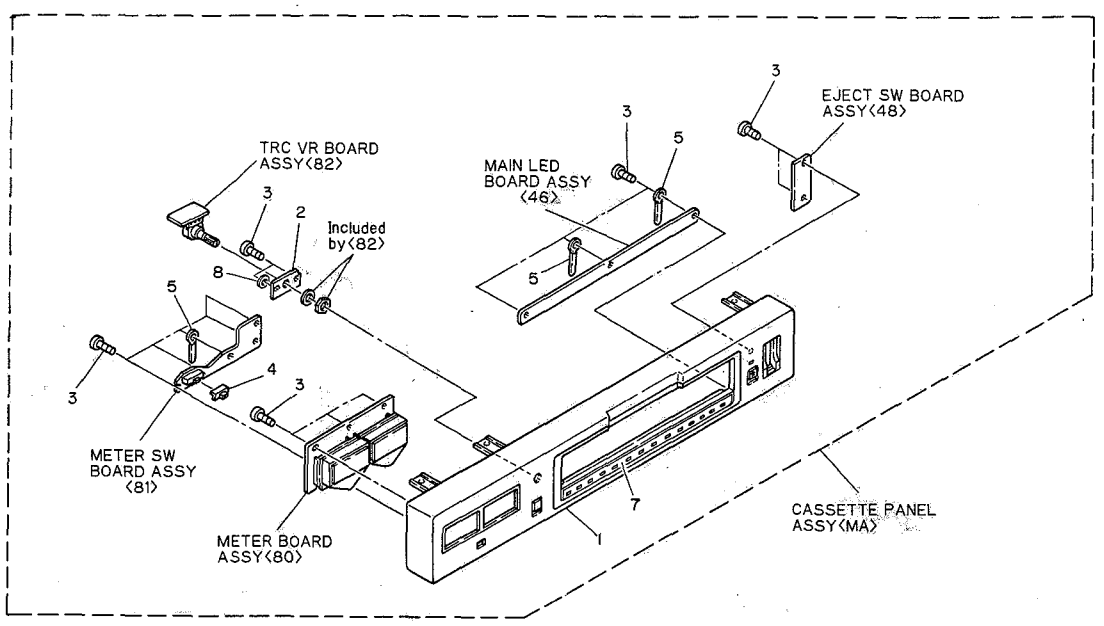
DRUM ASSEMBLY M9 - 522E -

M9MM□□□□

⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
⚠		PDV2273E	DRUM ASSY, 522	
	1	PGZ01630	SLIP RING ASSY	
	1A	YFS2603B	SET SCREW	
	2	PRD20380C-1	UPPER DRUM ASSY	
	3	PDM4264A	DRUM SCREW ASSY, ×2	
	4	PRD20382E	LOWER DRUM MOTOR ASSY	
	5	PRD43986A	BRUSH ASSY(A)	
	6	PRD43986B	BRUSH ASSY(B)	
	7	BYS2605FS	S.BOLT, ×4	
	8	PRD43978	MOUNT PLATE, ×2	
	9	PRD30023-51	COMPRESSION SPRING, ×6	
	10	BYS2606FS	S.BOLT, ×6	
	11	PRD30921	BRUSH BASE	
	12	PQM30017-25	SLIT WASHER, ×2	NOT INCLUDED
	13	PRD30023-42	COMPRESSION SPRING(S),	NOT INCLUDED
	14	PRD30023-43	COMPRESSION SPRING(T),	NOT INCLUDED
	15	PRD43675	COLLAR, ×2	NOT INCLUDED
	16	PGZ01667	INERTIA ROLLER ASSY(S),	NOT INCLUDED
	17	PGZ01667-02	INERTIA ROLLER ASSY(T),	NOT INCLUDED
	18	PRD43675-02	COLLAR (S),	NOT INCLUDED
	19	PRD43675-03-01	COLLAR (T),	NOT INCLUDED
	20	PU49485-3	WIRE CLAMP	
	21	PRD30027-04	SPECIAL SCREW	
	22	PDM4067	PART NO.LABEL	
	23	PRD43979	STUD	
	24	PRD30027-04	SPECIAL SCREW	

5.10 Front panel assembly

5.10.1 Cassette panel <MA>

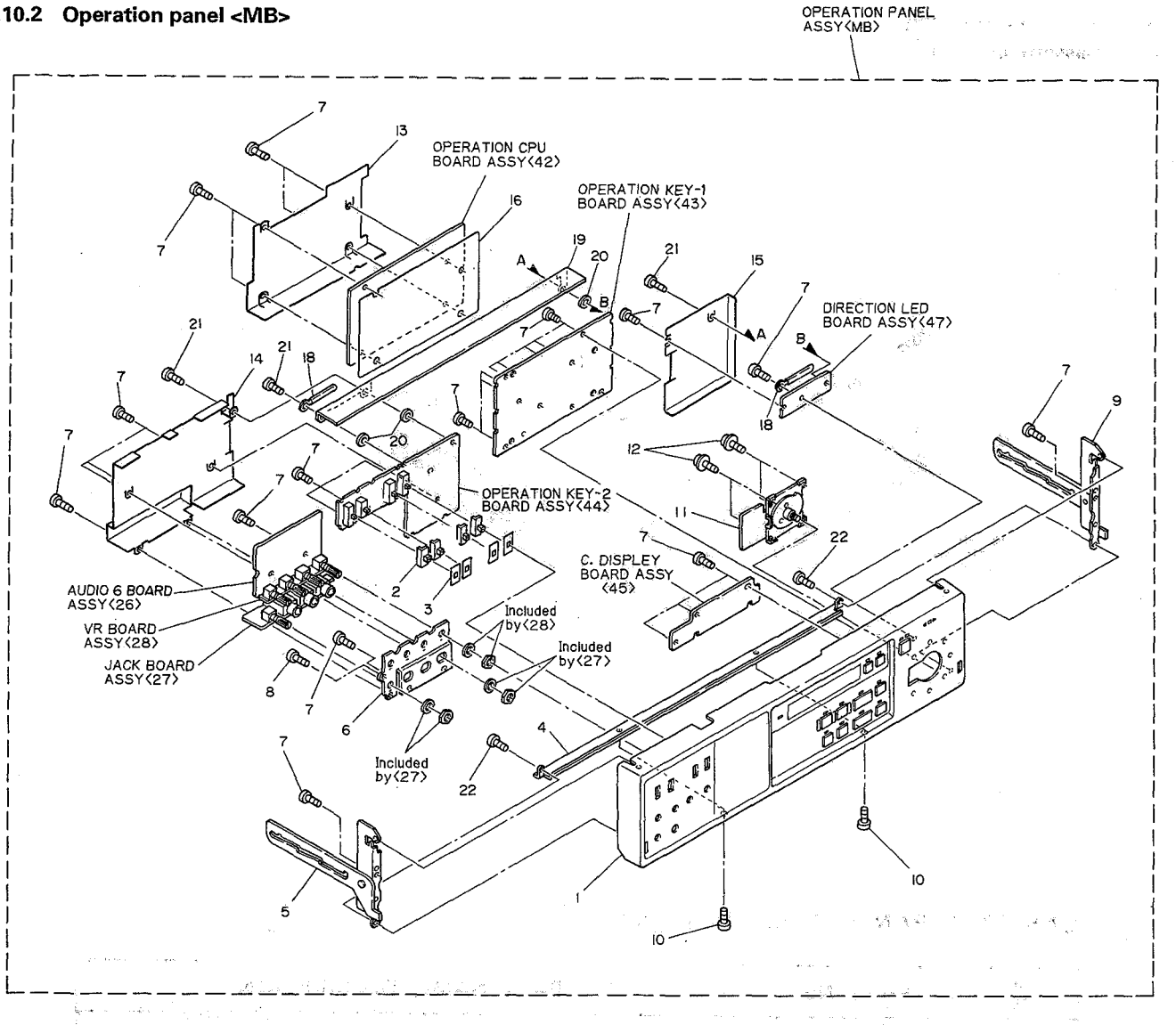


CASSETTE PANEL ASSEMBLY MA

MAMM□□□□

⚠ REF No.	PART No.	PART NAME, DESCRIPTION
1	PRD10229L	CASSETTE PANEL ASSY, 525
	PRD10229K	CASSETTE PANEL ASSY, 522
2	PRD43427	VR BRACKET
3	SBSF2606Z	SCREW, ×15
4	PRD42927A	SLIDE KNOB ASSY
5	PU49485-4	WIRE CLAMP, ×3
7	PRD30726-04	WINDOW
8	WNB2600N	WASHER

5.10.2 Operation panel <MB>



OPERATION PANEL ASSEMBLY MB

MBMM□□□□

⚠ REF No.	PART No.	PART NAME, DESCRIPTION
1	PRD10259F-05	OPERATION PANEL ASSY, 525
	PRD10259E-05	OPERATION PANEL ASSY, 522
2	PRD42830	SLIDE KNOB, ×4
3	PRD43146	KNOB PLATE, ×4
4	PRD20379	OPERATION BRACKET
5	PRD30732A-01	SIDE BRACKET(L) ASSY
6	PRD43428	VR & JACK BRACKET
7	SBSF2606Z	SCREW, ×28
8	LPSP3006Z	SCREW
9	PRD30733A-01	SIDE BRACKET(R) ASSY
10	PRD43194	SPECIAL SCREW, ×2
11	PGS20128H-02	SEARCH/JOG CONTROL ASSY, 522
	PGS20933A	SEARCH/JOG CONTROL ASSY, 525
12	DPSP3016Z	SCREW, ×4(525)
	DPSP3010Z	SCREW, ×4(522)
13	PRD30774-01-01	PROTECTOR(A)
14	PRD30775-02-03	PROTECTOR(B)
15	PRD43477-01-01	PROTECTOR(C)
16	PRD43478	INSULATOR
18	PU49485-4	WIRE CLAMP, ×2
19	PRD30850	OPERATION BRACKET
20	PRD30084	WASHER, ×3
21	SDSF2610Z	SCREW, ×3
22	SDSP2608Z	SCREW, ×2

SECTION 6
ELECTRICAL PARTS LIST

Note:

- Parts identified by the ⚠ symbol are critical for safety. Replace only with parts having the specified part numbers.
- The parts list in this section applies to both the BR-S525E and the BR-S522E unless the applicable model is specified in the Remark column or the head of respective lists. In that event the part or the P.C. board assembly is for exclusive use of the specified model.

Example 1 :

R147 QRSA08J-332YN resistor, 525 3.3 kΩ, 1/10W 100

In this case, the resistor (R147) is used in the BR-S525E only.

Example 2 :

— AUDIO-6 BOARD ASSY, 525 —

PWBA PRK30066A1 AUDIO-6 Board Ass'y

In the above case, the AUDIO-6 Board Ass'y is the circuit board assembly that is exclusively used for the BR-S525E.

Parts without any remark are used in both the models in common.

MOTHER 1 BOARD ASSEMBLY <01>

#⚠REF No.	PART No.	PART NAME, DESCRIPTION
PWBA	PRK10149E	MOTHER 1 BOARD ASSY, 525
	PRK10113C-01	MOTHER 1 BOARD ASSY, 522
CL1	PEME0802	CLAMP, ×6
CN1	PGZ01783-44	FEMALE CONNECTOR
CN2	PGZ01783-44	FEMALE CONNECTOR
CN3	PGZ01783-44	FEMALE CONNECTOR
CN4	PGZ01783-44	FEMALE CONNECTOR
CN5	PGZ01783-44	CONNECTOR
CN6	PGZ01783-44	CONNECTOR
CN7	PGZ01783-44	CONNECTOR
CN8	PGZ01783-44	CONNECTOR
CN9	PU59513-8	CONNECTOR
CN10	PU59513-2	CONNECTOR
CN11	PU59513-8	CONNECTOR
CN12	PU59513-5	CONNECTOR
CN13	PU59513-6	CONNECTOR
CN14	PU59513-7	CONNECTOR
CN15	PU59513-4Y	CONNECTOR
CN16	PU59513-2Y	CONNECTOR
CN17	PU59513-5	CONNECTOR
CN18	PU59513-8	CONNECTOR
CN19	PU59513-7	CONNECTOR
CN20	PU59513-2	CONNECTOR
CN21	PU60329-120	CONNECTOR
CN22	PU60329-120	CONNECTOR
CN23	PU59513-2R	CONNECTOR
CN24	PU59513-6	CONNECTOR
CN25	PU59513-2R	CONNECTOR
CN27	PU59513-4	CONNECTOR
CN28	PU59513-2R	CONNECTOR
CN29	PU59513-2	CONNECTOR
CN30	PU59513-4R	CONNECTOR
CN31	PU59513-2	CONNECTOR
CN32	PU59513-5	CONNECTOR
CN33	PU59513-2	CONNECTOR
CN34	PU59513-2R	CONNECTOR
CN35	PU59513-2R	CONNECTOR
CN35	PU59513-5R	CONNECTOR
CN37	PU59513-2R	CONNECTOR
CN38	PU59513-2	CONNECTOR
CN39	PU59513-2R	CONNECTOR
CN40	PU59513-2Y	CONNECTOR
CN42	PU59513-2	CONNECTOR, 525
CN43	PU59513-3	CONNECTOR, 525
CN44	PU59513-2	CONNECTOR, 525

MOTHER 2 BOARD ASSEMBLY <02>

#⚠REF No.	PART No.	PART NAME, DESCRIPTION
PWBA	PRK10111E	MOTHER 2 BOARD ASSY, 525
	PRK10111C-01	MOTHER 2 BOARD ASSY, 522
R1	QRD161J-151	RESISTOR 150Ω,1／6W
CL1	PEME0802	CLAMP, ×8
CL2	PGZ01377-03	STYLE PIN, ×3
SPC1	PRD42222	INSULATOR
SPC2	PRD30030-59	PAD
SPC2	PRD42222	INSULATOR
WR1	PGW0205-050200	FLAT WIRE
WR2	PGW0201-050201	PARALLEL WIRE
CN1	PGZ01783-64	FEMALE CONNECTOR
CN2	PGZ01783-64	FEMALE CONNECTOR
CN3	PGZ01783-64	FEMALE CONNECTOR
CN4	PGZ01783-64	FEMALE CONNECTOR
CN5	PGZ01783-64	FEMALE CONNECTOR
CN6	PGZ01783-64	FEMALE CONNECTOR
CN7	PGZ01783-64	FEMALE CONNECTOR
CN8	PGZ01783-64	FEMALE CONNECTOR
CN9	PGZ01783-64	FEMALE CONNECTOR
CN10	PGZ01783-64	FEMALE CONNECTOR
CN11	PU60329-120	CONNECTOR
CN12	PU59513-2	CONNECTOR
CN13	PU60329-120	CONNECTOR
CN15	PU59513-7	CONNECTOR
CN16	PU59513-4	CONNECTOR
CN17	PU58844-6	CONNECTOR
CN18	PU59513-3	CONNECTOR
CN19	PU59513-2	CONNECTOR
CN20	PU58844-10	CONNECTOR
CN21	PU59513-8	CONNECTOR
CN22	PU59513-2	CONNECTOR
CN23	PU58844-9	CONNECTOR
CN25	PU59513-2R	CONNECTOR
CN27	PU59513-5	CONNECTOR
CN29	PU59513-4	CONNECTOR
CN30	PU59513-6	CONNECTOR
CN31	PU59513-4	CONNECTOR
CN32	PU59513-4R	CONNECTOR
CN34	PU59513-4Y	CONNECTOR
CN35	PU59513-2R	CONNECTOR
CN36	PU59513-7	CONNECTOR
CN37	PU59513-5R	CONNECTOR
CN38	PU59513-8	CONNECTOR
CN39	PU59513-4	CONNECTOR
CN40	PU59513-6	CONNECTOR
CN42	PU59513-4Y	CONNECTOR
CN43	PU59513-3	CONNECTOR
CN44	PU59513-4Y	CONNECTOR

⚠REF No.	PART No.	PART NAME, DESCRIPTION
CN45	PU59513-4Y	CONNECTOR
CN46	PU59513-4	CONNECTOR
CN47	PU59513-5	CONNECTOR
CN48	PU59513-3	CONNECTOR
CN49	PU59513-3R	CONNECTOR
CN50	PU59513-8	CONNECTOR
CN51	PU58844-5	CONNECTOR
CN52	PU59513-6	CONNECTOR
CN53	PU59513-4R	CONNECTOR
CN54	PU59513-5R	CONNECTOR
CN55	PU59513-5	CONNECTOR
CN56	PU58844-4R	CONNECTOR
CN57	PU58844-4Y	CONNECTOR
CN58	PU58844-3	CONNECTOR
CN59	PU58844-4	CONNECTOR
CN60	PU58844-2	CONNECTOR
CN61	PU58844-4	CONNECTOR
CN62	PU58844-4R	CONNECTOR
CN63	PU58844-6	CONNECTOR
CN64	PEMC0769-004	CONNECTOR
CN65	PEMC0769-002	CONNECTOR
CN68	PU59513-4R	CONNECTOR
CN70	PU59513-6	CONNECTOR
CN71	PU59513-5	CONNECTOR
CN72	PU59513-7	CONNECTOR
CN73	PU59513-2	CONNECTOR
CN74	PU60251-4	CONNECTOR
CN75	PU59513-4	CONNECTOR
CN76	PU59513-2Y	CONNECTOR
CN77	PU59513-2	CONNECTOR
CN78	PU58844-7	CONNECTOR, 525
CN79	PU59513-2	CONNECTOR, 525

SLOT MOTHER BOARD ASSEMBLY <03>

PWBA	PRK20091B	SLOT MOTHER BOARD ASSY	
Q1	DTC144EF	TRANSISTOR	
R1	QRD167J-103	RESISTOR	10kΩ,1/6W
CN1	PGZ01936-32	MALE CONNECTOR	
CN2	PU58844-2	CONNECTOR	
CN3	PU58844-7	CONNECTOR	
CN4	PU58844-4R	CONNECTOR	

SYSCON MOTHER BOARD ASSEMBLY <04>

PWBA	PGE20348B	SYSCON MOTHER BOARD ASSY, 525

#⚠REF No.	PART No.	PART NAME, DESCRIPTION
	PGE20348A-01	SYSCON MOTHER BOARD ASSY, 522
SCW1	SPSP2608Z	SCREW, ×4 NOT INCLUDED
SCW2	NNS2600N	NUT, ×4 NOT INCLUDED
SPC1	PRD30083-02	SPACER,NOT INCLUDED
CN1	PGZ01936-44	MALE CONNECTOR
CN2	PGZ01936-44	MALE CONNECTOR
CN3	PU58844-105R	CONNECTOR
CN4	PU58844-105	CONNECTOR
CN5	PU58844-107	CONNECTOR
CN6	PU58844-104	CONNECTOR
CN7	PU58844-104R	CONNECTOR
CN8	PU58844-106	CONNECTOR
CN9	PU58844-104R	CONNECTOR
CN10	PU58844-107	CONNECTOR
CN11	PU58844-102	CONNECTOR
CN12	PU58844-102	CONNECTOR
CN13	PU58844-107	CONNECTOR
CN14	PU58844-102	CONNECTOR
CN15	PU58844-104	CONNECTOR

FUSE BOARD ASSEMBLY <05>

PWBA	PRK20177A	FUSE BOARD ASSY	
STK1	PRD30072-60	STICKER	
C1	QETA1EM-477	E CAPACITOR	470μF,25V
C2	QETA1EM-477	E CAPACITOR	470μF,25V
C3	QETA1EM-478	E CAPACITOR	4700μF,25V
C4	QETA1EM-477	E CAPACITOR	470μF,25V
C5	QETA1EM-477	E CAPACITOR	470μF,25V
C6	QETA1CM-478	E CAPACITOR	4700μF,16V
C7	QETA1EM-228	E CAPACITOR	2200μF,25V
C8	QETA1EM-477	E CAPACITOR	470μF,25V
C9	QETA1EM-477	E CAPACITOR	470μF,25V
⚠ K1	PGZ00354	FERRITE BEADS	
⚠ K2	PGZ00354	FERRITE BEADS	
⚠ K3	PGZ00354	FERRITE BEADS	
⚠ K4	PGZ00354	FERRITE BEADS	
⚠ K5	PGZ00354	FERRITE BEADS	
⚠ K6	PGZ00354	FERRITE BEADS	
⚠ K7	PGZ00354	FERRITE BEADS	
⚠ K8	PGZ00354	FERRITE BEADS	
⚠ K9	PGZ00354	FERRITE BEADS	
EJ1	PGZ00582	EJECTOR, ×2	

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
⚠	HD1	PU51212	FUSE CLIP, ×6	
	SPC1	PRD30083-03	SPACER, ×3	
	CN1	PGZ00421-64	MALE CONNECTOR	
⚠	F11	QMF51E2-2R5	FUSE, NOT INCLUDED	T2.5A
⚠	F12	QMF51E2-1R0	FUSE, NOT INCLUDED	T1.0A
⚠	F13	QMF51E2-3R15	FUSE, NOT INCLUDED	T3.1A

R/P Y BOARD ASSEMBLY <10>

PWBA	PRK20120D-02	R/P Y BOARD ASSY, 522
	PRK20120E-01	R/P Y BOARD ASSY, 525
STK1	PRD30072-53	STICKER
IC1	M5278L12	I.C.(M)
IC2	M5278L12	I.C.(M)
IC3	M5278L12	I.C.(M)
IC4	M5278L05	I.C.(M)
IC5	M5278L12	I.C.(M)
IC6	M5278L12	I.C.(M)
IC7	M5278L05	I.C.(M)
IC8	M5278L05	I.C.(M)
IC9	M5278L05	I.C.(M)
IC10	M5278D05	I.C.(M)
IC11	M5278L12	I.C.(M)
IC12	M5278L12	I.C.(M)
IC13	M5278L12	I.C.(M)
IC22	8VT15	I.C.(M)
	or HMC-229	I.C.(M)
IC23	TA7347P	I.C.(M)
IC24	LA7220	I.C.(M)
IC25	TC4053BF	I.C.(M)
IC26	AN1082S	I.C.(M)
IC27	8VT15	I.C.(M)
	or HMC-229	I.C.(M)
IC29	VC2076DP	I.C.(M)
IC31	8VT15	I.C.(M)
	or HMC-229	I.C.(M)
IC32	TA7347P	I.C.(M)
IC35	TC74HC4538AF	I.C.(M)
IC36	TC74HC4538AF	I.C.(M)
IC37	AN6393	I.C.(M)
IC38	TC74HC86AF	I.C.(M)
IC39	AN6308S	I.C.(M)
IC40	MC10116L	I.C.(M)
IC41	MC10116L	I.C.(M)
IC42	MC10107L	I.C.(M)
IC43	AN607P	I.C.(M)
IC44	8VT15	I.C.(M)
	or HMC-229	I.C.(M)
IC45	AN607P	I.C.(M)
IC46	8VT15	I.C.(M)
	or HMC-229	I.C.(M)
IC47	TA7347P	I.C.(M)
IC48	TA7347P	I.C.(M)
Q2	2SC2412K(RS)	TRANSISTOR
Q3	DTC144EK	TRANSISTOR
Q4	2SC2412K(RS)	TRANSISTOR
Q5	2SC2412K(RS)	TRANSISTOR
Q6	2SA1037K(QR)	TRANSISTOR
Q7	2SA1037K(QR)	TRANSISTOR
Q8	2SC2412K(RS)	TRANSISTOR
Q9	2SK621	FE TRANSISTOR
Q10	2SK621	FE TRANSISTOR
Q11	2SK621	FE TRANSISTOR
Q17	2SA1037K(QR)	TRANSISTOR
Q18	2SC2412K(RS)	TRANSISTOR
Q19	2SC2412K(RS)	TRANSISTOR
Q20	2SK621	FE TRANSISTOR
Q21	2SK621	FE TRANSISTOR
Q22	2SK621	FE TRANSISTOR
Q23	DTC144EK	TRANSISTOR
Q24	2SK621	FE TRANSISTOR
Q25	2SC2412K(RS)	TRANSISTOR
Q26	2SA1037K(QR)	TRANSISTOR
Q27	2SC2412K(RS)	TRANSISTOR
Q28	2SD601A(Q)	TRANSISTOR
Q29	DTC144EK	TRANSISTOR
Q32	2SA1037K(QR)	TRANSISTOR
Q33	2SC2412K(RS)	TRANSISTOR
Q40	DTC144EK	TRANSISTOR
Q41	2SC2412K(RS)	TRANSISTOR
Q42	2SC2412K(RS)	TRANSISTOR
Q45	2SD601A(Q)	TRANSISTOR
Q46	2SA1037K(QR)	TRANSISTOR
Q47	2SC2412K(RS)	TRANSISTOR
Q48	2SK621	FE TRANSISTOR
Q49	2SK621	FE TRANSISTOR
Q50	2SK621	FE TRANSISTOR, 522
Q51	DTC144EK	TRANSISTOR
Q52	2SC2412K(RS)	TRANSISTOR
Q53	2SA1037K(QR)	TRANSISTOR
Q54	2SC2412K(RS)	TRANSISTOR
Q55	2SK621	FE TRANSISTOR
Q56	2SK621	FE TRANSISTOR
Q57	2SC2412K(RS)	TRANSISTOR
Q58	DTC144EK	TRANSISTOR
Q59	2SA1037K(QR)	TRANSISTOR
Q60	DTC144EK	TRANSISTOR
Q61	DTC144EK	TRANSISTOR
Q62	2SA1037K(QR)	TRANSISTOR

⚠REF No.	PART No.	PART NAME, DESCRIPTION	
Q63	2SC2412K(RS)	TRANSISTOR	
Q64	2SC2412K(RS)	TRANSISTOR	
Q65	2SK621	FE TRANSISTOR	
Q66	DTC144EK	TRANSISTOR	
Q67	DTC144EK	TRANSISTOR	
Q68	2SC2412K(RS)	TRANSISTOR	
Q69	2SA1037K(QR)	TRANSISTOR	
Q70	2SC2412K(RS)	TRANSISTOR	
Q71	2SC2412K(RS)	TRANSISTOR	
Q72	2SC2412K(RS)	TRANSISTOR	
Q73	2SD601A(Q)	TRANSISTOR	
Q74	2SC2412K(RS)	TRANSISTOR	
Q75	2SA1037K(QR)	TRANSISTOR	
Q76	2SC2412K(RS)	TRANSISTOR	
Q77	2SD601A(Q)	TRANSISTOR	
Q78	2SC2412K(RS)	TRANSISTOR	
Q79	2SA1037K(QR)	TRANSISTOR	
Q80	2SC2412K(RS)	TRANSISTOR	
Q81	2SA1037K(QR)	TRANSISTOR	
Q82	2SC2412K(RS)	TRANSISTOR	
Q86	2SC2412K(RS)	TRANSISTOR	
Q87	2SC2412K(RS)	TRANSISTOR, 522	
Q88	2SC2412K(RS)	TRANSISTOR	
Q89	2SC2412K(RS)	TRANSISTOR	
Q90	2SK621	FE TRANSISTOR, 525	
Q90	2SK656	FE TRANSISTOR, 522	
Q91	DTC114ES	TRANSISTOR	
D1	1SS133	DIODE	
D2	1SS133	DIODE	
D3	1SS133	DIODE	
D4	1SS133	DIODE	
D5	1SS133	DIODE	
D6	1SS133	DIODE	
D8	1SS133	DIODE	
D9	1SS133	DIODE	
D10	1SS133	DIODE	
D13	1SS133	DIODE	
D23	1SS133	DIODE	
D24	1SS133	DIODE	
R4	QVPB610-102	V RESISTOR	1kΩ
R11	QVZ3513-222	V RESISTOR	2.2kΩ
R12	QVPB610-202	V RESISTOR	2kΩ
R13	QVZ3513-223	V RESISTOR	22kΩ
R14	QVZ3513-223	V RESISTOR	22kΩ
R15	QVZ3513-472	V RESISTOR	4.7kΩ
R109	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R110	QRSA08J-123YN	RESISTOR	12kΩ,1/10W
R111	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R112	QRSA08J-123YN	RESISTOR	12kΩ,1/10W
R113	QRSA08J-392YN	RESISTOR	3.9kΩ,1/10W
R114	QRSA08J-182YN	RESISTOR	1.8kΩ,1/10W

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R115	NRVA62D-621N	RESISTOR	620Ω,1/16W
R116	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R117	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R118	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R119	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R120	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R121	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R122	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R123	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
R124	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
R125	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R126	QRSA08J-273YN	RESISTOR	27kΩ,1/10W
R127	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
R128	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R129	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R130	QRSA08J-682YN	RESISTOR	6.8kΩ,1/10W
R131	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R132	QRSA08J-153YN	RESISTOR	15kΩ,1/10W
R133	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R134	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
R135	QRSA08J-682YN	RESISTOR	6.8kΩ,1/10W
R136	QRSA08J-682YN	RESISTOR	6.8kΩ,1/10W
R137	QRSA08J-682YN	RESISTOR	6.8kΩ,1/10W
R148	QRSA08J-273YN	RESISTOR	27kΩ,1/10W
R149	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R153	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
R154	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
R155	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R156	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R157	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
R158	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R159	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R160	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R161	QRSA08J-153YN	RESISTOR	15kΩ,1/10W
R162	QRSA08J-153YN	RESISTOR	15kΩ,1/10W
R163	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R164	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R165	QRSA08J-331YN	RESISTOR	330Ω,1/10W
R166	QRSA08J-331YN	RESISTOR	330Ω,1/10W
R167	QRSA08J-682YN	RESISTOR	6.8kΩ,1/10W
R168	QRSA08J-680YN	RESISTOR	68Ω,1/10W
R169	QRSA08J-272YN	RESISTOR	2.7kΩ,1/10W
R170	QRV141F-1331AY	RESISTOR	1.33kΩ,1/4W
R171	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R172	QRSA08J-272YN	RESISTOR	2.7kΩ,1/10W
R173	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R174	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R175	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R176	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R177	QRSA08J-391YN	RESISTOR	390Ω,1/10W
R178	NRVA62D-302N	CMF RESISTOR	3kΩ,1/16W
R179	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R180	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R181	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R182	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R183	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R184	QRSA08J-101YN	RESISTOR, 522	100Ω,1/10W
R185	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R186	QRSA08J-471YN	RESISTOR	470Ω,1/10W
R187	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R190	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R191	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R192	NRVA62D-331N	RESISTOR	330Ω,1/16W
R193	NRVA62D-302N	CMF RESISTOR	3kΩ,1/16W
R194	NRVA62D-152N	RESISTOR	1.5kΩ,1/16W
R195	NRVA62D-162N	CMF RESISTOR	1.6kΩ,1/16W
R196	NRVA62D-151N	CMF RESISTOR	150Ω,1/16W
R197	NRVA62D-332N	RESISTOR	3.3kΩ,1/16W
R198	NRVA62D-102N	RESISTOR	1kΩ,1/16W
R199	NRVA62D-102N	RESISTOR	1kΩ,1/16W
R200	NRVA62D-471N	RESISTOR	470Ω,1/16W
R201	NRVA62D-332N	RESISTOR	3.3kΩ,1/16W
R202	NRVA62D-152N	RESISTOR	1.5kΩ,1/16W
R203	NRVA62D-332N	RESISTOR	3.3kΩ,1/16W
R219	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R220	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R221	QRSA08J-123YN	RESISTOR	12kΩ,1/10W
R222	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R223	QRSA08J-123YN	RESISTOR	12kΩ,1/10W
R224	QRSA08J-562YN	RESISTOR	5.6kΩ,1/10W
R225	QRSA08J-182YN	RESISTOR	1.8kΩ,1/10W
R226	QRSA08J-681YN	RESISTOR	680Ω,1/10W
R227	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R228	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R229	QRSA08J-471YN	RESISTOR	470Ω,1/10W
R230	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R232	QRSA08J-272YN	RESISTOR	2.7kΩ,1/10W
R241	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R251	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R252	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R253	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R254	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R255	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R256	QRSA08J-182YN	RESISTOR	1.8kΩ,1/10W
R257	QRSA08J-561YN	RESISTOR	560Ω,1/10W
R258	QRSA08J-821YN	RESISTOR	820Ω,1/10W
R259	QRSA08J-103YN	RESISTOR, 522	10kΩ,1/10W
R260	QRSA08J-103YN	RESISTOR, 522	10kΩ,1/10W
R261	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R262	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R263	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R264	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R265	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R266	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R267	QRSA08J-561YN	RESISTOR	560Ω,1/10W
R268	QRSA08J-272YN	RESISTOR	2.7kΩ,1/10W
R269	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R270	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R271	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R272	QRSA08J-102YN	RESISTOR	1kΩ,1/10W

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R273	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R274	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R275	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R276	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R277	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R278	QRSA08J-561YN	RESISTOR	560Ω,1/10W
R279	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R280	QRSA08J-154YN	RESISTOR	150kΩ,1/10W
R281	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
R282	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R283	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R284	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R285	QRSA08J-103YN	RESISTOR, 522	10kΩ,1/10W
R285	QRSA08J-471YN	RESISTOR, 525	470Ω,1/10W
R286	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R287	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R288	QRSA08J-683YN	RESISTOR	68kΩ,1/10W
R289	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R291	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R292	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
R293	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
R294	QRSA08J-561YN	RESISTOR	560Ω,1/10W
R295	QRSA08J-561YN	RESISTOR	560Ω,1/10W
R296	QRSA08J-391YN	RESISTOR	390Ω,1/10W
R297	QRSA08J-391YN	RESISTOR	390Ω,1/10W
R298	QRSA08J-182YN	RESISTOR	1.8kΩ,1/10W
R299	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R300	QRV141F-5230AY	RESISTOR	523Ω,1/4W
R301	QRV141F-7870AY	RESISTOR	787Ω,1/4W
R302	QRSA08J-821YN	RESISTOR	820Ω,1/10W
R303	QRSA08J-821YN	RESISTOR	820Ω,1/10W
R304	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
R305	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
R306	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
R307	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
R308	QRSA08J-562YN	RESISTOR	5.6kΩ,1/10W
R309	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
R310	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
R311	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
R312	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
R313	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
R314	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R315	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R316	QRSA08J-151YN	RESISTOR	150Ω,1/10W
R317	QRSA08J-221YN	RESISTOR	220Ω,1/10W
R318	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R319	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R320	QRSA08J-123YN	RESISTOR	12kΩ,1/10W
R321	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R322	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R323	QRSA08J-272YN	RESISTOR	2.7kΩ,1/10W
R324	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R325	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R326	QRSA08J-153YN	RESISTOR	15kΩ,1/10W
R327	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R328	QRSA08J-391YN	RESISTOR	390Ω,1/10W
R330	NRVA62D-242N	RESISTOR	2.4kΩ,1/16W

△REF No.	PART No.	PART NAME, DESCRIPTION	
R332	QRSA08J-182YN	RESISTOR	1.8kΩ,1/10W
R333	QRSA08J-821YN	RESISTOR	820Ω,1/10W
R334	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R335	QRSA08J-183YN	RESISTOR	18kΩ,1/10W
R336	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R337	QRSA08J-183YN	RESISTOR	18kΩ,1/10W
R338	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R339	NRVA62D-182N	RESISTOR	1.8kΩ,1/16W
R340	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R341	QRSA08J-391YN	RESISTOR	390Ω,1/10W
R342	QRSA08J-821YN	RESISTOR	820Ω,1/10W
R344	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R345	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R346	QRSA08J-272YN	RESISTOR	2.7kΩ,1/10W
R347	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R348	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R349	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R350	QRSA08J-182YN	RESISTOR	1.8kΩ,1/10W
R351	QRSA08J-821YN	RESISTOR	820Ω,1/10W
R352	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R353	QRSA08J-183YN	RESISTOR	18kΩ,1/10W
R354	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R355	QRSA08J-183YN	RESISTOR	18kΩ,1/10W
R356	QRSA08J-562YN	RESISTOR	5.6kΩ,1/10W
R357	QRSA08J-393YN	RESISTOR	39kΩ,1/10W
R358	QRSA08J-471YN	RESISTOR	470Ω,1/10W
R359	QRSA08J-562YN	RESISTOR	5.6kΩ,1/10W
R360	QRSA08J-221YN	RESISTOR	220Ω,1/10W
R361	QRSA08J-821YN	RESISTOR	820Ω,1/10W
R363	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R364	QRSA08J-182YN	RESISTOR	1.8kΩ,1/10W
R365	QRSA08J-272YN	RESISTOR	2.7kΩ,1/10W
R366	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R367	QRSA08J-273YN	RESISTOR	27kΩ,1/10W
R368	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R369	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R370	QRSA08J-681YN	RESISTOR	680Ω,1/10W
R371	QRSA08J-391YN	RESISTOR	390Ω,1/10W
R372	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
R373	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R374	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R375	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R376	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R379	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R380	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R381	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R384	QRSA08J-562YN	RESISTOR	5.6kΩ,1/10W
R386	NRVA62D-562N	RESISTOR	5.6kΩ,1/16W
R387	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R397	QRSA08J-471YN	RESISTOR	470Ω,1/10W
R399	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R405	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R409	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R413	QRSA08J-125YN	RESISTOR	1.2MΩ,1/10W
R414	QRSA08J-273YN	RESISTOR	27kΩ,1/10W

#△REF No.	PART No.	PART NAME, DESCRIPTION	
R415	QRSA08J-183YN	RESISTOR	18kΩ,1/10W
R416	QRSA08J-182YN	RESISTOR, 522	1.8kΩ,1/10W
R417	QRSA08J-182YN	RESISTOR	1.8kΩ,1/10W
R418	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R419	QRSA08J-272YN	RESISTOR	2.7kΩ,1/10W
R420	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R421	QRSA08J-183YN	RESISTOR	18kΩ,1/10W
R422	QRSA08J-821YN	RESISTOR	820Ω,1/10W
R423	QRSA08J-821YN	RESISTOR	820Ω,1/10W
R424	QRSA08J-222YN	RESISTOR, 522	2.2kΩ,1/10W
R425	QRSA08J-272YN	RESISTOR	2.7kΩ,1/10W
R430	QRD161J-391	RESISTOR	390Ω,1/6W
R431	QRD161J-563	RESISTOR	56kΩ,1/6W
R433	QRD161J-331	RESISTOR	330Ω,1/6W
R434	QRD161J-391	RESISTOR	390Ω,1/6W
R435	QRD161J-102	RESISTOR	1kΩ,1/6W
C5	QETC1AM-476	E CAPACITOR	47μF,10V
C6	QETC1AM-476	E CAPACITOR	47μF,10V
C7	QCF31HP-103	CAPACITOR	0.01μF,50V
C9	QETC1AM-107	E CAPACITOR	100μF,10V
C11	QCF11HP-103	CAPACITOR	0.01μF,50V
C12	QETC1AM-476	E CAPACITOR	47μF,10V
C13	QETC1AM-476	E CAPACITOR	47μF,10V
C14	QETC1AM-476	E CAPACITOR	47μF,10V
C15	QCF31HP-103	CAPACITOR	0.01μF,50V
C16	QCC31CK-104	CAPACITOR	0.1μF,16V
C17	QETC1CM-476	E CAPACITOR	47μF,16V
C18	QCZ0208-104	CAPACITOR	0.1μF
C19	QETC1AM-476	E CAPACITOR	47μF,10V
C20	QCS31HJ-331	CAPACITOR	330pF,50V
C21	QCC31CK-104	CAPACITOR, 522	0.1μF,16V
C21	QCFB1EZ-223	CAPACITOR, 525	0.022μF,25V
C22	QFN31HJ-104	M CAPACITOR	0.1μF,50V
C24	QFN31HJ-102	M CAPACITOR	0.001μF,50V
C25	QCC31CK-104	CAPACITOR	0.1μF,16V
C26	QETC1CM-476	E CAPACITOR	47μF,16V
C27	QCC31EK-104	CAPACITOR	0.1μF,25V
C31	QCF31HP-103	CAPACITOR	0.01μF,50V
C32	QETC1AM-476	E CAPACITOR	47μF,10V
C34	QCF31HP-103	CAPACITOR	0.01μF,50V
C35	QETC1AM-476	E CAPACITOR	47μF,10V
C36	QCF31HP-103	CAPACITOR	0.01μF,50V
C38	QCS31HJ-561	CAPACITOR	560pF,50V
C39	QCS31HJ-221	CAPACITOR	220pF,50V
C40	QETC1CM-107	E CAPACITOR	100μF,16V
C41	QETC1EM-475	E CAPACITOR	4.7μF,25V
C42	QCZ0208-104	CAPACITOR	0.1μF
C43	QETC1CM-476	E CAPACITOR	47μF,16V
C44	QCC31EK-104	CAPACITOR	0.1μF,25V
C45	QETC1AM-476	E CAPACITOR	47μF,10V
C46	QETC1HM-225	E CAPACITOR	2.2μF,50V
C47	QETC1HM-225	E CAPACITOR	2.2μF,50V
C48	QENC1AM-226	E CAPACITOR	22μF,10V
C49	QFP41HF-271	PP CAPACITOR	270pF,50V
C50	QFP41HG-470	PP CAPACITOR	47pF,50V

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
C51	QFP41HG-181	PP CAPACITOR	180pF,50V
C52	QFP41HG-301	PP CAPACITOR	300pF,50V
C53	QFP41HG-820	PP CAPACITOR	82pF,50V
C54	QFP41HG-271	PP CAPACITOR	270pF,50V
C55	QFP41HG-301	PP CAPACITOR	300pF,50V
C56	QFP41HG-221	PP CAPACITOR	220pF,50V
C57	QFP41HG-301	PP CAPACITOR	300pF,50V
C58	QCC31CK-104	CAPACITOR	0.1μF,16V
C59	QETC1AM-476	E CAPACITOR	47μF,10V
C60	QCC31CK-104	CAPACITOR	0.1μF,16V
C66	QCC31CK-104	CAPACITOR	0.1μF,16V
C67	QETC1CM-476	E CAPACITOR	47μF,16V
C68	QCC31EK-104	CAPACITOR	0.1μF,25V
C69	QETC1AM-476	E CAPACITOR	47μF,10V
C70	QETC1AM-476	E CAPACITOR	47μF,10V
C71	QCF31HP-103	CAPACITOR	0.01μF,50V
C73	QETC1AM-476	E CAPACITOR	47μF,10V
C74	QETC1AM-476	E CAPACITOR	47μF,10V
C75	QCF31HP-103	CAPACITOR	0.01μF,50V
C76	QETC1CM-476	E CAPACITOR	47μF,16V
C77	QCC31EK-104	CAPACITOR	0.1μF,25V
C85	QCC31CK-104	CAPACITOR	0.1μF,16V
C86	QETC1AM-476	E CAPACITOR	47μF,10V
C87	QCC31CK-104	CAPACITOR	0.1μF,16V
C93	QETC1AM-226	E CAPACITOR	22μF,10V
C94	QCS31HJ-390	CAPACITOR	39pF,50V
C95	QCS31HJ-121	CAPACITOR	120pF,50V
C96	QENC1HM-105	NP E CAPACITOR	1μF,50V
C97	QCS31HJ-121	CAPACITOR	120pF,50V
C98	QCF31HP-103	CAPACITOR, 522	0.01μF,50V
C99	QCC31CK-104	CAPACITOR	0.1μF,16V
C100	QETC1AM-476	E CAPACITOR	47μF,10V
C101	QCC31CK-104	CAPACITOR	0.1μF,16V
C101	QCTA1CH-560	CAPACITOR	56pF,16V
C102	QETC1AM-226	E CAPACITOR	22μF,10V
C103	QCS31HJ-390	CAPACITOR	39pF,50V
C104	QCS31HJ-121	CAPACITOR	120pF,50V
C105	QENC1HM-105	NP E CAPACITOR	1μF,50V
C106	QCS31HJ-470	CAPACITOR	47pF,50V
C107	QCS31HJ-820	CAPACITOR	82pF,50V
C108	QCF31HP-103	CAPACITOR	0.01μF,50V
C109	QFN31HJ-104	M CAPACITOR	0.1μF,50V
C110	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C111	QFN41HJ-223	M CAPACITOR	0.022μF,50V
C112	QFN31HJ-104	M CAPACITOR	0.1μF,50V
C113	QCS31HJ-150	CAPACITOR	15pF,50V
C114	QCS31HJ-5R0	CAPACITOR, 522	5pF,50V
C114	QCS31HJ-120	CAPACITOR, 525	12pF,50V
C115	QCF31HP-103	CAPACITOR	0.01μF,50V
C116	QFN31HJ-333	M CAPACITOR	0.033μF,50V
C117	QCS31HJ-471	CAPACITOR	470pF,50V
C118	QFN31HJ-682	M CAPACITOR, 522	0.0068μF,50V
C118	QCXB1CN-682	M CAPACITOR, 525	0.0068μF,16V
C119	QCS31HJ-391	CAPACITOR, 522	390pF,50V
C119	QFN31HJ-102	CAPACITOR, 525	0.001μF,50V
C120	QCF31HP-103	CAPACITOR	0.01μF,50V

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
C121	QFN31HJ-223	M CAPACITOR	0.022μF,50V
C122	QFN31HJ-223	M CAPACITOR	0.022μF,50V
C123	QCF31HP-103	CAPACITOR	0.01μF,50V
C125	QCC31CK-104	CAPACITOR	0.1μF,16V
C126	QETC1CM-476	E CAPACITOR	47μF,16V
C127	QCC31CK-104	CAPACITOR	0.1μF,16V
C128	QCT25CH-2R0	CAPACITOR	2pF
C129	QFN31HJ-104	M CAPACITOR	0.1μF,50V
C130	QFP41HG-102	PP CAPACITOR	0.001μF,50V
C131	QETC1AM-476	E CAPACITOR	47μF,10V
C132	QETC1AM-337	E CAPACITOR	330μF,10V
C133	QCC31CK-104	CAPACITOR	0.1μF,16V
C134	QETC1AM-108	E CAPACITOR	1000μF,10V
C135	QCC31CK-104	CAPACITOR	0.1μF,16V
C136	QETC1CM-476	E CAPACITOR	47μF,16V
C137	QCC31EK-104	CAPACITOR	0.1μF,25V
C138	QCC31CK-104	CAPACITOR	0.1μF,16V
C139	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C140	QFN31HJ-223	M CAPACITOR	0.022μF,50V
C141	QETC1AM-476	E CAPACITOR	47μF,10V
C142	QETC1CM-337	E CAPACITOR	330μF,16V
C143	QCC31CK-104	CAPACITOR	0.1μF,16V
C144	QETC1AM-476	E CAPACITOR	47μF,10V
C145	QETC1AM-107	E CAPACITOR	100μF,10V
C146	QETC1AM-107	E CAPACITOR	100μF,10V
C147	QCF31HP-103	CAPACITOR	0.01μF,50V
C148	QCT25CH-470	CAPACITOR	47pF
C149	QCS31HJ-331	CAPACITOR	330pF,50V
C150	QCT05CH-151	CAPACITOR	150pF
C151	QETC1CM-336	E CAPACITOR	33μF,16V
C152	QETC1CM-337	E CAPACITOR	330μF,16V
C153	QCC31CK-104	CAPACITOR	0.1μF,16V
C154	QETC1AM-476	E CAPACITOR, 522	47μF,10V
C154	QETA1AM-476	E CAPACITOR, 525	47μF,10V
C155	QETC1AM-107	E CAPACITOR	100μF,10V
C156	QETC1AM-107	E CAPACITOR	100μF,10V
C157	QCF31HP-103	CAPACITOR	0.01μF,50V
C158	QCT25CH-560	CAPACITOR	56pF
C159	QFN31HJ-332	M CAPACITOR	0.0033μF,50V
C161	QETC1CM-107	E CAPACITOR	100μF,16V
C162	QETC1AM-476	E CAPACITOR	47μF,10V
C163	QETC1AM-476	E CAPACITOR	47μF,10V
C164	QCF31HP-103	CAPACITOR	0.01μF,50V
C165	QCC31CK-104	CAPACITOR	0.1μF,16V
C166	QETC1CM-476	E CAPACITOR	47μF,16V
C167	QCC31EK-104	CAPACITOR	0.1μF,25V
C168	QETC1AM-476	E CAPACITOR	47μF,10V
C169	QETC1AM-476	E CAPACITOR	47μF,10V
C170	QCF31HP-103	CAPACITOR	0.01μF,50V
C172	QCC31CK-104	CAPACITOR	0.1μF,16V
C173	QETC1CM-476	E CAPACITOR	47μF,16V
C174	QCC31EK-104	CAPACITOR	0.1μF,25V
C181	QFP41HG-390	PP CAPACITOR	39pF,50V
C182	QETC1CM-476	E CAPACITOR	47μF,16V
C183	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C190	QCS11HJ-470	CAPACITOR	47pF,50V

⚠REF No.	PART No.	PART NAME, DESCRIPTION	
C192	QCTA1CH-560	CAPACITOR	56pF,16V
C193	QETC1AM-476	E CAPACITOR	47μF,10V
C195	QETC1AM-476	E CAPACITOR	47μF,10V
C198	QCT05CH-221	CAPACITOR	220pF
C200	QCT05CH-8R0	CAPACITOR	8pF
C202	QCTA1CH-271	CAPACITOR, 525	270pF,16V
C202	QCS11HJ-271	CAPACITOR, 522	270pF,50V
C205	QETA1AM-227	E CAPACITOR	220μF,10V
C206	QCS11HJ-220	CAPACITOR	22pF,50V
C207	QCS11HJ-220	CAPACITOR	22pF,50V
C208	QCS11HJ-560	CAPACITOR	56pF,50V
C209	QCS11HJ-100	CAPACITOR	10pF,50V
L1	PU48530-221J	COIL	220μH
L2	PU48530-221J	COIL	220μH
L5	PU48530-470J	COIL	47μH
L10	PU48530-100J	COIL	10μH
L11	PU48530-101J	COIL	100μH
L14	PU48530-270J	COIL	27μH
L15	PU48530-121J	COIL, 522	120μH
L17	PU48530-560J	COIL	56μH
L17	PU48530-680J	COIL	68μH
L18	PU48530-680J	COIL	68μH
LPF3	PELN0336-01-01	LOW PASS FILTER	
LPF4	PU58021-3	LOW PASS FILTER	
DL1	PGZ00130-002	DELAY LINE	
DL2	PGZ00130-001	DELAY LINE	
DL4	PGZ01554	DELAY LINE	
DL5	PGZ01553	DELAY LINE	
S1	PU54440	SWITCH	
S2	PU54440	SWITCH, 522	
EJ1	PGZ00582	EJECTOR, ×2	
RV1	PU53276	PLASTIC RIVET, ×5	
SLD1	PRD30781-01-03	SHIELD PLATE	
TP1	PU54983	TEST PIN, ×13(TP1-9, GND1-4)	
CN1	PGZ00421-44	MALE CONNECTOR	
CN2	PGZ00421-44	MALE CONNECTOR	

- R/P Y SUB BOARD ASSEMBLY, 525 -

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
PWBA	PRK20239A	R/P Y SUB BOARD ASSY	
Q87	2SC2412K(RS)	TRANSISTOR	
R416	QRSA08J-182YN	RESISTOR	1.8kΩ,1/10W
C190	QCTA1CH-470	CAPACITOR	47pF,16V
C200	QCTA1CH-8R0	CAPACITOR	8pF,16V
L15	YU41134-121J	COIL	120μH
L17	YU41134-560JY	COIL	56μH

- NC LIM BOARD ASSEMBLY -

PWBA	PRK30104A	NC LIM BOARD ASSY	
IC28	JCL0007	I.C.(M)	
D31	1SS133	DIODE	
D32	1SS133	DIODE	
R451	QRD161J-182	RESISTOR	1.8kΩ,1/6W
R452	QRD161J-182	RESISTOR	1.8kΩ,1/6W
C203	QFN31HK-223	M CAPACITOR	0.022μF,50V
C204	QCS31HJ-270	CAPACITOR	27pF,50V
L16	PU48530-820J	COIL, 525	82μH
CN101	PGZ00190-008	CONNECTOR	

- DOC CUT BOARD ASSY -

PWBA	PRK20231A	DOC CUT BOARD ASSY, 522	
	PRK20231B	DOC CUT BOARD ASSY, 525	
Q91	DTC144EK	TRANSISTOR	
D33	DAN202K	DIODE	
R436	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R436	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R437	QRSA08J-682YN	RESISTOR	6.8kΩ,1/10W
R437	QRSA08J-822YN	RESISTOR	8.2kΩ,1/10W
C206	QCFA1HZ-104	CAPACITOR	0.1μF,50V

- SUB DOC BOARD ASSY, 525 -

PWBA	PRK20237A	SUB DOC BOARD ASSY	
IC2	M5278L12M	I.C.(M)	
IC3	M5278L12M	I.C.(M)	
IC21	TC7S08F	I.C.(M)	
IC22	SN75157PS	I.C.(M)	
IC23	MN3801	I.C.(M)	
IC24	LM6361M	I.C.(M)	
IC25	TA7347P	I.C.(M)	
Q1	2SC2412K(RS)	TRANSISTOR	
Q4	2SD601A(Q)	TRANSISTOR	
Q5	2SD601A(Q)	TRANSISTOR	
Q6	2SC2412K(RS)	TRANSISTOR	
Q7	2SC2412K(RS)	TRANSISTOR	
Q8	2SC2412K(RS)	TRANSISTOR	
Q9	2SA1037K(QR)	TRANSISTOR	
Q10	2SC2412K(RS)	TRANSISTOR	
Q11	2SD601A(Q)	TRANSISTOR	
Q12	2SD601A(Q)	TRANSISTOR	
D1	1SS133	DIODE	
R1	QVZ3513-102	V RESISTOR	1kΩ
R3	QVZ3513-104	V RESISTOR	100kΩ
R101	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R102	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R103	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
R104	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R105	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R106	QRSA08J-393YN	RESISTOR	39kΩ,1/10W
R107	QRSA08J-393YN	RESISTOR	39kΩ,1/10W
R108	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R109	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R110	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R111	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R113	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R114	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R115	QRSA08J-221YN	RESISTOR	220Ω,1/10W
R116	QRSA08J-221YN	RESISTOR	220Ω,1/10W
R117	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R118	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R121	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R122	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R123	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R124	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R125	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R126	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R127	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R128	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R129	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R130	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R131	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R132	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R133	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R134	QRSA08J-271YN	RESISTOR	270Ω,1/10W
R135	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R136	QRSA08J-124YN	RESISTOR	120kΩ,1/10W
R137	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R138	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R139	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R140	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R141	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R142	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R146	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R147	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R148	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
C101	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C102	QCTA1CH-330	CAPACITOR	33pF,16V
C103	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C104	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C105	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C106	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C107	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C108	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C109	QEK61AM-107	E CAPACITOR	100μF,10V
C110	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C111	QEK61AM-476	E CAPACITOR	47μF,10V
C112	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C113	QEK61AM-476	E CAPACITOR	47μF,10V
C114	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C116	QEK61AM-107	E CAPACITOR	100μF,10V
C117	QEK61AM-476	E CAPACITOR	47μF,10V
C118	QCTA1CH-270	CAPACITOR	27pF,16V
C119	QEK61AM-107	E CAPACITOR	100μF,10V
C120	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C122	QEK61AM-476	E CAPACITOR	47μF,10V
C123	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C124	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C125	QEK61AM-476	E CAPACITOR	47μF,10V
C126	QEP61CM-106	NP E CAPACITOR	10μF,16V
C127	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C128	QEK61CM-476	E CAPACITOR	47μF,16V
C129	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C130	QCTA1CH-560	CAPACITOR	56pF,16V
C131	QEK61AM-476	E CAPACITOR	47μF,10V

⚠REF No.	PART No.	PART NAME, DESCRIPTION	
C132	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C133	QEP61CM-106	NP E CAPACITOR	10μF,16V
C134	QEK61AM-476	E CAPACITOR	47μF,10V
C135	QEK61CM-476	E CAPACITOR	47μF,16V
C136	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C137	QCFA1HZ-103	CAPACITOR	0.01μF,50V
L101	PU48530-5R6J	COIL	5.6μH
L102	PU48530-2R2J	COIL	2.2μH
L103	PU48530-101J	COIL	100μH
TP1	PU54983	TEST PIN, ×3	
CN1	PGZ01838-01	CONNECTOR, ×4(FOR PJ1-3,6)	

R/P COLOR BOARD ASSEMBLY <11>

PWBA	PRK20126B-01	R/P COLOR BOARD ASSY, 522	
	PRK20209B	R/P COLOR BOARD ASSY, 525	
TP1	PU54983	TEST PIN, ×16	
STK1	PRD30072-52	STICKER	
IC1	M5278L12	I.C.(M)	
IC4	M5278L12	I.C.(M)	
IC5	M5278L05	I.C.(M)	
IC7	M5278L05	I.C.(M)	
IC8	M5278L05	I.C.(M)	
IC11	TA7347P	I.C.(M)	
IC14	TA7347P	I.C.(M)	
IC15	AN608P	I.C.(M)	
IC16	8VT15	I.C.(M)	
	or HMC-229	I.C.(M)	
IC17	TA7347P	I.C.(M)	
IC18	TC74HC00AF	I.C.(M)	
IC20	TA8644N	I.C.(M)	
IC21	TA7347P	I.C.(M)	
IC24	AN607P	I.C.(M), 522	
IC26	TC4013BF	I.C.(M), 522	
IC27	TC74HC151AF	I.C.(M), 522	
IC28	TC74HC04AF	I.C.(M)	
IC29	TC74HC4538AF	I.C.(M)	
IC31	AN3916	I.C.(M)	
IC32	TC74HC4538AF	I.C.(M)	
IC33	TC74HC4538AF	I.C.(M)	
IC34	TC7W04F	I.C.(M)	
IC39	LA7213	I.C.(M)	
IC40	AN3296	I.C.(M), 522	

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
Q1	2SC2412K(RS)	TRANSISTOR	
Q2	2SC2412K(RS)	TRANSISTOR	
Q3	2SA1037K(QR)	TRANSISTOR	
Q4	2SC2412K(RS)	TRANSISTOR	
Q5	2SA1037K(QR)	TRANSISTOR	
Q6	2SC2412K(RS)	TRANSISTOR	
Q7	DTC144EK	TRANSISTOR	
Q15	2SC2412K(RS)	TRANSISTOR	
Q16	2SA1037K(QR)	TRANSISTOR	
Q17	2SC2412K(RS)	TRANSISTOR	
Q18	2SC2412K(RS)	TRANSISTOR	
Q19	2SC2412K(RS)	TRANSISTOR	
Q20	2SC2412K(RS)	TRANSISTOR	
Q21	2SC2412K(RS)	TRANSISTOR	
Q22	2SC2412K(RS)	TRANSISTOR	
Q27	2SA1037K(QR)	TRANSISTOR	
Q28	2SA1037K(QR)	TRANSISTOR	
Q29	2SC2412K(RS)	TRANSISTOR	
Q30	2SC2412K(RS)	TRANSISTOR	
Q31	2SC2412K(RS)	TRANSISTOR	
Q32	DTC144EK	TRANSISTOR	
Q35	2SC2412K(RS)	TRANSISTOR	
Q36	2SA1037K(QR)	TRANSISTOR	
Q37	DTC144EK	TRANSISTOR	
Q38	2SC2412K(RS)	TRANSISTOR	
Q39	2SC2412K(RS)	TRANSISTOR	
Q43	2SC2412K(RS)	TRANSISTOR, 522	
Q44	2SC2412K(RS)	TRANSISTOR	
Q49	DTC144EK	TRANSISTOR, 522	
Q50	DTC144EK	TRANSISTOR, 522	
Q51	2SC2412K(RS)	TRANSISTOR, 522	
Q53	2SC2412K(RS)	TRANSISTOR	
Q54	2SC2412K(RS)	TRANSISTOR	
Q59	2SC2412K(RS)	TRANSISTOR	
Q62	2SC2412K(RS)	TRANSISTOR	
Q63	2SA1037K(QR)	TRANSISTOR	
Q67	2SK621	FE TRANSISTOR	
Q71	DTC144EK	TRANSISTOR	
Q73	2SC2412K(RS)	TRANSISTOR, 525	
Q75	2SK621	FE TRANSISTOR, 525	
D2	1SS133	DIODE	
D3	1SS133	DIODE	
D10	1SS133	DIODE	
D11	1SS133	DIODE	
D12	1SS133	DIODE	
D13	1SS133	DIODE, 522	
R1	QVPB610-202	V RESISTOR, 522	2kΩ
R2	QVPB610-202	V RESISTOR	2kΩ
R5	QVZ3513-471	V RESISTOR	470Ω
R9	QVZ3513-103	V RESISTOR	10kΩ

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R10	QVZ3513-681	V RESISTOR	680Ω
R15	QRSA08J-152YN	RESISTOR, 525	1.5kΩ,1/10W
R15	QRD161J-152	RESISTOR, 522	1.5kΩ,1/6W
R18	QRSA08J-184YN	RESISTOR, 525	180kΩ,1/10W
R18	QRD161J-184	RESISTOR, 522	180kΩ,1/6W
R19	QVZ3513-222	V RESISTOR	2.2kΩ
R21	QVZ3513-471	V RESISTOR	470Ω
R101	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R102	QRSA08J-273YN	RESISTOR	27kΩ,1/10W
R103	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R104	QRSA08J-102YN	RESISTOR, 525	1kΩ,1/10W
R105	QRSA08J-102YN	RESISTOR, 522	1kΩ,1/10W
R106	QRSA08J-102YN	RESISTOR, 525	1kΩ,1/10W
R107	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R108	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R109	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R110	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R111	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R112	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R113	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R114	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R115	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R116	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R117	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R118	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R150	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R151	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R152	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
R153	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R154	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R155	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R156	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R157	QRSA08J-392YN	RESISTOR	3.9kΩ,1/10W
R158	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R159	QRSA08J-562YN	RESISTOR	5.6kΩ,1/10W
R160	QRSA08J-391YN	RESISTOR	390Ω,1/10W
R161	QRSA08J-0R0Y	RESISTOR, 522	0Ω,1/10W
R162	QRSA08J-391YN	RESISTOR	390Ω,1/10W
R163	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R164	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R165	QRSA08J-272YN	RESISTOR	2.7kΩ,1/10W
R166	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R167	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R168	QRSA08J-470YN	RESISTOR	47Ω,1/10W
R170	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R171	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R172	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R173	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R174	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R175	QRSA08J-470YN	RESISTOR	47Ω,1/10W
R176	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R177	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R178	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R179	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R180	QRSA08J-181YN	RESISTOR	180Ω,1/10W

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R181	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R187	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R188	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R189	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R190	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R191	QRSA08J-273YN	RESISTOR	27kΩ,1/10W
R192	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R193	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R194	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R195	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R196	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R197	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R198	QRSA08J-681YN	RESISTOR	680Ω,1/10W
R199	QRSA08J-331YN	RESISTOR	330Ω,1/10W
R200	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R201	QRSA08J-223YN	RESISTOR, 522	22kΩ,1/10W
R208	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R209	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R210	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
R211	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R212	QRSA08J-392YN	RESISTOR	3.9kΩ,1/10W
R213	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R214	QRSA08J-562YN	RESISTOR, 522	5.6kΩ,1/10W
R215	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R216	QRSA08J-183YN	RESISTOR	18kΩ,1/10W
R217	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R218	QRSA08J-471YN	RESISTOR	470Ω,1/10W
R219	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
R220	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R234	QRSA08J-223YN	RESISTOR, 522	22kΩ,1/10W
R234	QRSA08J-0R0Y	RESISTOR, 525	0Ω,1/10W
R235	QRSA08J-273YN	RESISTOR, 522	27kΩ,1/10W
R236	QRSA08J-152YN	RESISTOR, 522	1.5kΩ,1/10W
R236	QRSA08J-562YN	RESISTOR, 525	5.6kΩ,1/10W
R237	QRSA08J-221YN	RESISTOR, 522	220Ω,1/10W
R238	QRSA08J-221YN	RESISTOR, 522	220Ω,1/10W
R239	QRSA08J-0R0Y	RESISTOR, 522	0Ω,1/10W
R240	QRSA08J-392YN	RESISTOR, 522	3.9kΩ,1/10W
R241	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
R242	QRSA08J-183YN	RESISTOR	18kΩ,1/10W
R246	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R259	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R260	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R261	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R262	QRSA08J-103YN	RESISTOR, 522	10kΩ,1/10W
R263	QRSA08J-562YN	RESISTOR, 522	5.6kΩ,1/10W
R264	QRSA08J-103YN	RESISTOR, 522	10kΩ,1/10W
R265	QRSA08J-392YN	RESISTOR	3.9kΩ,1/10W
R266	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
R269	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
R270	QRSA08J-183YN	RESISTOR	18kΩ,1/10W
R271	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R273	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R274	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W

△REF No.	PART No.	PART NAME, DESCRIPTION	
R275	QRSA08J-392YN	RESISTOR	3.9kΩ,1/10W
R276	QRSA08J-221YN	RESISTOR, 525	220Ω,1/10W
R277	QRSA08J-105YN	RESISTOR, 525	1MΩ,1/10W
R286	QRSA08J-391YN	RESISTOR	390Ω,1/10W
R287	QRSA08J-391YN	RESISTOR	390Ω,1/10W
R288	QRSA08J-471YN	RESISTOR	470Ω,1/10W
R289	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R290	QRSA08J-273YN	RESISTOR	27kΩ,1/10W
R291	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R300	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R303	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R304	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R305	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R306	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R307	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R308	QRSA08J-681YN	RESISTOR	680Ω,1/10W
R311	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R321	QRSA08J-152YN	RESISTOR, 522	1.5kΩ,1/10W
R321	QRSA08J-562YN	RESISTOR, 525	5.6kΩ,1/10W
R322	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
R323	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R326	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R327	QRSA08J-273YN	RESISTOR	27kΩ,1/10W
R330	QRSA08J-681YN	RESISTOR	680Ω,1/10W
R331	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
R332	QRSA08J-184YN	RESISTOR	180kΩ,1/10W
R333	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
R334	NRVA62D-473N	RESISTOR	47kΩ,1/16W
R335	NRVA62D-513N	RESISTOR	51kΩ,1/16W
R336	QRSA08J-684YN	RESISTOR	680kΩ,1/10W
R337	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R338	NRVA62D-753N	RESISTOR	75kΩ,1/16W
R339	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
R341	QRSA08J-102YN	RESISTOR, 525	1kΩ,1/10W
R343	QRSA08J-223YN	RESISTOR, 525	22kΩ,1/10W
R344	QRSA08J-103YN	RESISTOR, 525	10kΩ,1/10W
R345	QRSA08J-152YN	RESISTOR, 525	1.5kΩ,1/10W
R347	QRSA08J-222YN	RESISTOR, 525	2.2kΩ,1/10W
R347	QRD161J-222	RESISTOR, 522	2.2kΩ,1/6W
R348	QRSA08J-471YN	RESISTOR, 525	470Ω,1/10W
R348	QRD161J-471	RESISTOR, 522	470Ω,1/6W
R349	QRSA08J-152YN	RESISTOR, 525	1.5kΩ,1/10W
R350	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
C1	QCFA1HZ-104	CAPACITOR	0.1μF,50V
C2	QCFA1HZ-104	CAPACITOR	0.1μF,50V
C3	QETC1CM-476	E CAPACITOR	47μF,16V
C4	QCYA1EK-103	CAPACITOR	0.01μF,25V
C5	QCS31HJ-101	CAPACITOR	100pF,50V
C6	QCS31HJ-101	CAPACITOR	100pF,50V
C7	QCYA1EK-103	CAPACITOR	0.01μF,25V
C8	QCYA1EK-103	CAPACITOR	0.01μF,25V
C9	QETC1CM-476	E CAPACITOR	47μF,16V
C10	QCFA1HZ-223	CAPACITOR	0.022μF,50V

#△REF No.	PART No.	PART NAME, DESCRIPTION	
C32	QCFA1HZ-104	CAPACITOR	0.1μF,50V
C33	QCFA1HZ-104	CAPACITOR	0.1μF,50V
C34	QETC1CM-476	E CAPACITOR	47μF,16V
C35	QCYA1EK-103	CAPACITOR	0.01μF,25V
C36	QCYA1EK-103	CAPACITOR	0.01μF,25V
C37	QCYA1EK-103	CAPACITOR	0.01μF,25V
C38	QCYA1EK-103	CAPACITOR	0.01μF,25V
C40	QCS31HJ-470	CAPACITOR	47pF,50V
C41	QCYA1EK-103	CAPACITOR	0.01μF,25V
C42	QCYA1EK-103	CAPACITOR	0.01μF,25V
C43	QCYA1EK-103	CAPACITOR	0.01μF,25V
C44	QETC1CM-476	E CAPACITOR	47μF,16V
C45	QCFA1HZ-223	CAPACITOR	0.022μF,50V
C49	QFN31HJ-104	M CAPACITOR	0.1μF,50V
C50	QETC1HM-105	E CAPACITOR	1μF,50V
C51	QETC1HM-105	E CAPACITOR	1μF,50V
C52	QCFA1HZ-104	CAPACITOR	0.1μF,50V
C53	QCFA1HZ-104	CAPACITOR, 522	0.1μF,50V
C54	QCYA1EK-103	CAPACITOR	0.01μF,25V
C55	QCYA1EK-103	CAPACITOR	0.01μF,25V
C56	QETC1HM-105	E CAPACITOR	1μF,50V
C57	QCYA1EK-103	CAPACITOR	0.01μF,25V
C59	QCYA1EK-103	CAPACITOR	0.01μF,25V
C60	QCFA1HZ-223	CAPACITOR	0.022μF,50V
C61	QETC1AM-476	E CAPACITOR	47μF,10V
C62	QCYA1EK-103	CAPACITOR	0.01μF,25V
C63	QCYA1EK-103	CAPACITOR	0.01μF,25V
C64	QETC1HM-105	E CAPACITOR	1μF,50V
C65	QCYA1EK-103	CAPACITOR	0.01μF,25V
C66	QCYA1EK-104	CAPACITOR	0.1μF,25V
C70	QCFA1HZ-104	CAPACITOR	0.1μF,50V
C71	QCFA1HZ-104	CAPACITOR	0.1μF,50V
C72	QETC1AM-476	E CAPACITOR	47μF,10V
C73	QCS31HJ-121	M CAPACITOR	120pF,50V
C74	QFN41HK-103	M CAPACITOR, 522	0.01μF,50V
C74	QFN31HK-103	M CAPACITOR, 525	0.01μF,50V
C75	QETC1HM-335	E CAPACITOR	3.3μF,50V
C76	QCS31HJ-330	CAPACITOR	33pF,50V
C77	QAT3001-017	TRIMMER CAPACITOR	010μF
C78	QETC1HM-335	E CAPACITOR	3.3μF,50V
C79	QCYA1EK-103	CAPACITOR	0.01μF,25V
C80	QCS31HJ-390	CAPACITOR	39pF,50V
C81	QCS31HJ-470	CAPACITOR	47pF,50V
C82	QETC1HM-105	E CAPACITOR	1μF,50V
C83	QCFA1HZ-223	CAPACITOR	0.022μF,50V
C84	QETC1AM-476	E CAPACITOR	47μF,10V
C85	QCYA1EK-103	CAPACITOR	0.01μF,25V
C86	QCYA1EK-103	CAPACITOR	0.01μF,25V
C87	QCS31HJ-101	CAPACITOR	100pF,50V
C88	QCS31HJ-101	CAPACITOR	100pF,50V
C89	QETC1HM-475	E CAPACITOR	4.7μF,50V
C109	QETC1AM-476	E CAPACITOR	47μF,10V
C110	QCFA1HZ-223	CAPACITOR	0.022μF,50V
C112	QCYA1EK-103	CAPACITOR, 522	0.01μF,25V
C118	QCYA1EK-103	CAPACITOR	0.01μF,25V
C119	QCFA1HZ-104	CAPACITOR	0.1μF,50V

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#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
C120	QCFA1HZ-104	CAPACITOR	0.1 μ F,50V
C121	QETC1AM-476	E CAPACITOR	47 μ F,10V
C122	QCFA1HZ-104	CAPACITOR, 522	0.1 μ F,50V
C123	QCFA1HZ-223	CAPACITOR	0.022 μ F,50V
C124	QETC1AM-476	E CAPACITOR	47 μ F,10V
C125	QCFA1HZ-104	CAPACITOR, 522	0.1 μ F,50V
C126	QCFA1HZ-104	CAPACITOR	0.1 μ F,50V
C127	QETC1AM-476	E CAPACITOR	47 μ F,10V
C128	QCFA1HZ-223	CAPACITOR	0.022 μ F,50V
C129	QCFA1HZ-104	CAPACITOR	0.1 μ F,50V
C130	QFN31HJ-102	M CAPACITOR	0.001 μ F,50V
C131	QFN31HJ-102	M CAPACITOR	0.001 μ F,50V
C135	QETC1HM-475	E CAPACITOR	4.7 μ F,50V
C136	QFN31HJ-332	M CAPACITOR	0.0033 μ F,50V
C137	QFN31HJ-473	M CAPACITOR	0.047 μ F,50V
C138	QETC1HM-475	E CAPACITOR	4.7 μ F,50V
C139	QETC1HM-475	E CAPACITOR	4.7 μ F,50V
C140	QCYA1EK-103	CAPACITOR	0.01 μ F,25V
C142	QETC1AM-476	E CAPACITOR	47 μ F,10V
C143	QCFA1HZ-223	CAPACITOR	0.022 μ F,50V
C144	QCFA1HZ-104	CAPACITOR	0.1 μ F,50V
C145	QFN31HJ-102	M CAPACITOR	0.001 μ F,50V
C146	QCFA1HZ-104	CAPACITOR	0.1 μ F,50V
C147	QFV71HJ-103	TF CAPACITOR	0.01 μ F,50V
C148	QFN31HJ-102	M CAPACITOR	0.001 μ F,50V
C149	QCFA1HZ-104	CAPACITOR	0.1 μ F,50V
C150	QCFA1HZ-104	CAPACITOR	0.1 μ F,50V
C151	QETC1AM-476	E CAPACITOR	47 μ F,10V
C152	QCYA1EK-103	CAPACITOR, 525	0.01 μ F,25V
C153	QCFA1HZ-104	CAPACITOR	0.1 μ F,50V
C156	QCFA1HZ-223	CAPACITOR	0.022 μ F,50V
C157	QETC1AM-476	E CAPACITOR	47 μ F,10V
C166	QETC1AM-226	E CAPACITOR	22 μ F,10V
C167	QCSA1HJ-390	CAPACITOR	39pF,50V
C168	QCSA1HJ-121	CAPACITOR	120pF,50V
C170	QCYA1EK-103	CAPACITOR	0.01 μ F,25V
C171	QCT25CH-560	CAPACITOR, 522	56pF
C175	QCYA1EK-103	CAPACITOR	0.01 μ F,25V
C180	QCYA1EK-103	CAPACITOR	0.01 μ F,25V
C182	QCYA1EK-103	CAPACITOR	0.01 μ F,25V
C184	QFN31HJ-102	M CAPACITOR	0.001 μ F,50V
C185	QETC1HM-335	E CAPACITOR	3.3 μ F,50V
C186	QETC1CM-106	E CAPACITOR	10 μ F,16V
C187	QETC1CM-336	E CAPACITOR	33 μ F,16V
C188	QFLC1HJ-392Z	M CAPACITOR	0.0039 μ F,50V
C189	QCYA1HK-152	CAPACITOR	0.0015 μ F,50V
C190	QEE81VM-684	TANTAL CAPACITOR	0.68 μ F,35V
C191	QETC1HM-334	E CAPACITOR	0.33 μ F,50V
C192	QETC1AM-476	E CAPACITOR	47 μ F,10V
C193	QCYA1EK-103	CAPACITOR	0.01 μ F,25V
C194	QCSA1HJ-151	CAPACITOR	150pF,50V
C195	QCSA1HJ-471	CAPACITOR	470pF,50V
C196	QCFA1EZ-683	CAPACITOR	0.068 μ F,25V
C200	QFN41HK-103	M CAPACITOR, 522	0.01 μ F,50V

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
C203	QCTA1CH-121	CAPACITOR, 525	120pF,16V
C204	QCYA1EK-103	CAPACITOR, 525	0.01 μ F,25V
C205	QCFA1HZ-103	CAPACITOR, 525	0.01 μ F,50V
C205	QFN41HK-103	M CAPACITOR, 522	0.01 μ F,50V
C207	QFN41HK-563	M CAPACITOR	0.056 μ F,50V
C208	QCYA1HK-102	CAPACITOR, 525	0.001 μ F,50V
C208	QFN41HK-102	M CAPACITOR, 522	0.001 μ F,50V
C209	QCYA1HK-222	CAPACITOR, 525	0.0022 μ F,50V
C210	QCT25CH-121	CAPACITOR	120pF
L1	PU48530-471J	COIL	470 μ H
L2	PU48530-8R2J	COIL	8.2 μ H
L3	PU48530-8R2J	COIL	8.2 μ H
L4	PU48530-471J	COIL	470 μ H
L5	PU48530-471J	COIL	470 μ H
L6	PU48530-180J	COIL	18 μ H
L12	PU48530-6R8J	COIL, 522	6.8 μ H
L13	PU48530-6R8J	COIL, 522	6.8 μ H
L17	PU48530-221J	COIL	220 μ H
L20	PGZ00917-822	COIL	
L501	PU48530-221J	COIL	220 μ H
BPF1	PGZ01739	BAND PASS FILTER	
BPF3	PU54410-2	BAND PASS FILTER	
DL1	PGZ01797	DELAY LINE, 525	
DL2	PGZ01797	DELAY LINE, 522	
DL5	PGZ01556	DELAY LINE	
DL7	PGZ01554	DELAY LINE	
⚠ X1	PGZ01464	CRYSTAL RESONATOR	
EJ1	PGZ00582	EJECTOR, × 2	
RV1	PU53276	PLASTIC RIVET, × 4	
SCW1	LPSP2616Z	SCREW, × 2	
SCW2	WNS2600N	WASHER, × 2	
SCW3	NNS2600N	NUT, × 2	
SLD1	PRD30781-01-03	SHIELD PLATE	
TP1	PU54983	TEST PIN, × 16	
CN1	PGZ00421-44	MALE CONNECTOR	
CN2	PGZ00421-44	MALE CONNECTOR	

- R/P C SUB BOARD ASSY, 522 -

⚠REF No.	PART No.	PART NAME, DESCRIPTION	
PWBA	PRK20184A	R/P C SUB BOARD ASSY, 522	
R341	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
C203	QCTA1CH-121	CAPACITOR	120pF,16V

- BUFFER BOARD ASSY, 522 -

PWBA	PRK20189A	BUFFER BOARD ASSY, 522	
Q73	2SC2412K(RS)	TRANSISTOR	
R343	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R344	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R345	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
C204	QCYA1EK-103	CAPACITOR	0.01μF,25V

- BURST GATE BOARD ASSEMBLY -

PWBA	PRK20188A	BURST GATE BOARD ASSY	
IC20	TC74HC4538AF	I.C.(M)	
IC21	NJM567M	I.C.(M)	
Q20	DTC144EK	TRANSISTOR	
Q21	DTC144EK	TRANSISTOR	
R20	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R21	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R22	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R23	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R24	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
R25	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R26	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R27	NVP1415-502N	V RESISTOR	5kΩ,1/4W
C20	QCYA1HK-182	CAPACITOR	0.0018μF,50V
C21	QCYA1HJ-102	CAPACITOR	0.001μF,50V
C22	QCYA1HK-153	CAPACITOR	0.015μF,50V

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
C23	NEH11CM-476NP	E CAPACITOR	47μF,16V
C24	QCYA1EK-223	CAPACITOR	0.022μF,25V
C25	QFN41HK-103	M CAPACITOR	0.01μF,50V
C26	NEH11HM-225NZ	E CAPACITOR	2.2μF,50V
C27	NEH11HM-105NZ	E CAPACITOR	1μF,50V
C28	QCYA1EK-104	CAPACITOR	0.1μF,25V
TP201	PU56008	TEST PIN, ×2	

- HEAD SWITCH BOARD ASSY, 525 -

PWBA	PRK20230A	HEAD SWITCH BOARD ASSY, 525	
IC501	LA7213	I.C.(M)	
IC503	TC74HC74AF	I.C.(M)	
IC504	TC74HC4053AF	I.C.(M)	
IC505	TC74HC164AF	I.C.(M)	
IC506	M5278L05M	I.C.(M)	
IC507	JCL0016	I.C.(M)	
IC508	M5278L05M	I.C.(M)	
Q501	2SC2412K(QR)	TRANSISTOR	
Q502	2SA1037K(QR)	TRANSISTOR	
Q504	2SK621	FE TRANSISTOR	
Q505	2SK621	FE TRANSISTOR	
Q506	2SK621	FE TRANSISTOR	
D501	DAN202K	DIODE	
R501	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R502	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R503	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R504	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R505	QRSA08J-681YN	RESISTOR	680Ω,1/10W
R506	QRSA08J-681YN	RESISTOR	680Ω,1/10W
R507	QRSA08J-184YN	RESISTOR	180kΩ,1/10W
R509	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R511	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R512	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R517	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R519	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R520	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R521	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R522	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R524	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R526	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R527	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R528	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R529	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R530	QRSA08J-101YN	RESISTOR	100Ω,1/10W

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
C501	QEK61AM-226	E CAPACITOR	22μF,10V
C502	QCSA1HJ-390	CAPACITOR	39pF,50V
C503	QCSA1HJ-121	CAPACITOR	120pF,50V
C504	QEK61HM-335	E CAPACITOR	3.3μF,50V
C505	QEK61CM-106	E CAPACITOR	10μF,16V
C508	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C509	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C510	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C511	QEK61AM-107	E CAPACITOR	100μF,10V
C512	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C513	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C514	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C515	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C516	QEK61AM-107	E CAPACITOR	100μF,10V
C517	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C518	QCFA1HZ-103	CAPACITOR	0.01μF,50V
SW501	QSS1K41-L01	DIP SW	
SW502	YU40137	SLIDE SWITCH	
TP51	PU56008	TEST-PIN	
TP52	PU56008	TEST-PIN	
TP53	PU56008	TEST-PIN	
PJ501	PGZ01838-02	CONNECTOR	
PJ502	PGZ01838-02	CONNECTOR	
PJ503	PGZ01838-02	CONNECTOR	
PJ504	PGZ01838-02	CONNECTOR	

- HEAD SWITCH WIRE ASSY, 525 -

PWBA	PRK20238A	HEAD SWITCH WIRE ASSY
D22	DAP202K	DIODE

R/P COLOR-2 BOARD ASSEMBLY <12>

PWBA	PRK20127B	R/P C2 BOARD ASSY, 525
	PRK20127A-01	R/P C2 BOARD ASSY, 522
STK1	PRD30072-65	STICKER
IC301	M5278L05	I.C.(M)
IC302	M5278L12	I.C.(M)
IC303	M5278L05	I.C.(M)
IC304	M5278L12	I.C.(M)
IC311	SN16913P	I.C.(M)
IC312	AN607P	I.C.(M)
IC313	SN16913P	I.C.(M)
IC314	UPC319C	I.C.(M)
IC315	TC74HC04AP	I.C.(M)
IC317	AN607P	I.C.(M)
IC318	AN607P	I.C.(M)
IC319	AN3480K	I.C.(M)
IC320	BA7233	I.C.(M)
IC322	AN607P	I.C.(M)
IC323	8VT15	I.C.(M)
	or HMC-229	I.C.(M)
IC324	JCL0007	I.C.(M)
IC325	TA7348P	I.C.(M)
Q301	2SK656	FE TRANSISTOR
Q302	2SC1740S(QRS)	TRANSISTOR
Q303	2SC1740S(QRS)	TRANSISTOR
Q304	2SC1740S(QRS)	TRANSISTOR
Q305	2SC1740S(QRS)	TRANSISTOR
Q306	2SC1740S(QRS)	TRANSISTOR
Q307	2SC1740S(QRS)	TRANSISTOR
Q308	2SK656	FE TRANSISTOR
Q309	2SC1740S(QRS)	TRANSISTOR
Q310	2SC1740S(QRS)	TRANSISTOR
Q311	DTC144ES	TRANSISTOR
Q312	2SC1740S(QRS)	TRANSISTOR
Q313	2SC1740S(QRS)	TRANSISTOR
Q314	2SC1740S(QRS)	TRANSISTOR
Q315	2SC1740S(QRS)	TRANSISTOR
Q316	2SC1740S(QRS)	TRANSISTOR
Q317	2SC1740S(QRS)	TRANSISTOR
Q326	2SA933S	TRANSISTOR
Q327	2SC1740S(QRS)	TRANSISTOR
Q328	2SC1740S(QRS)	TRANSISTOR
Q329	2SC1740S(QRS)	TRANSISTOR
Q330	2SC1740S(QRS)	TRANSISTOR
Q331	2SA933S	TRANSISTOR
Q332	2SC1740S(QRS)	TRANSISTOR
Q333	2SA933S	TRANSISTOR
Q334	2SC1740S(QRS)	TRANSISTOR
Q335	2SC1740S(QRS)	TRANSISTOR
Q336	2SC1740S(QRS)	TRANSISTOR
D301	1SS133	DIODE
D302	1SS133	DIODE
D304	1SS133	DIODE
D305	1SS133	DIODE
D306	1SS133	DIODE
D307	1SS133	DIODE
R21	QVZ3513-102	V RESISTOR 1kΩ
R22	QVZ3513-472	V RESISTOR 4.7kΩ
R23	QVZ3513-102	V RESISTOR 1kΩ
R24	QVZ3513-222	V RESISTOR 2.2kΩ
R25	QVZ3513-102	V RESISTOR 1kΩ
R26	QVZ3513-221	V RESISTOR 220Ω

REF No.	PART No.	PART NAME, DESCRIPTION	
R27	QVZ3513-471	V RESISTOR, 522	470Ω
R301	QRD161J-152	RESISTOR	1.5kΩ ,1/6W
R302	QRD161J-103	RESISTOR	10kΩ ,1/6W
R303	QRD161J-223	RESISTOR	22kΩ ,1/6W
R304	QRD161J-152	RESISTOR	1.5kΩ ,1/6W
R305	QRD161J-273	RESISTOR	27kΩ ,1/6W
R306	QRD161J-183	RESISTOR	18kΩ ,1/6W
R307	QRD161J-102	RESISTOR	1kΩ ,1/6W
R308	QRD161J-102	RESISTOR	1kΩ ,1/6W
R309	QRD161J-273	RESISTOR	27kΩ ,1/6W
R310	QRD161J-183	RESISTOR	18kΩ ,1/6W
R311	QRD161J-102	RESISTOR	1kΩ ,1/6W
R312	QRD161J-222	RESISTOR	2.2kΩ ,1/6W
R313	QRD161J-102	RESISTOR	1kΩ ,1/6W
R314	QRD161J-103	RESISTOR	10kΩ ,1/6W
R315	QRD161J-223	RESISTOR	22kΩ ,1/6W
R316	QRD161J-472	RESISTOR	4.7kΩ ,1/6W
R317	QRD161J-223	RESISTOR	22kΩ ,1/6W
R318	QRD161J-273	RESISTOR	27kΩ ,1/6W
R319	QRD161J-152	RESISTOR	1.5kΩ ,1/6W
R320	QRD161J-561	RESISTOR	560Ω ,1/6W
R321	QRD161J-561	RESISTOR	560Ω ,1/6W
R322	QRD161J-0R0	RESISTOR	0Ω ,1/6W
R323	QRD161J-392	RESISTOR	3.9kΩ ,1/6W
R324	QRD161J-152	RESISTOR	1.5kΩ ,1/6W
R325	QRD161J-103	RESISTOR	10kΩ ,1/6W
R326	QRD161J-223	RESISTOR	22kΩ ,1/6W
R327	QRD161J-152	RESISTOR	1.5kΩ ,1/6W
R328	QRD161J-222	RESISTOR	2.2kΩ ,1/6W
R329	QRD161J-102	RESISTOR	1kΩ ,1/6W
R330	QRD161J-333	RESISTOR	33kΩ ,1/6W
R331	QRD161J-153	RESISTOR	15kΩ ,1/6W
R332	QRD161J-152	RESISTOR	1.5kΩ ,1/6W
R333	QRD161J-152	RESISTOR	1.5kΩ ,1/6W
R334	QRD161J-102	RESISTOR	1kΩ ,1/6W
R335	QRD161J-102	RESISTOR	1kΩ ,1/6W
R336	QRD161J-333	RESISTOR	33kΩ ,1/6W
R337	QRD161J-153	RESISTOR	15kΩ ,1/6W
R338	QRD161J-152	RESISTOR	1.5kΩ ,1/6W
R339	QRD161J-152	RESISTOR	1.5kΩ ,1/6W
R340	QRD161J-333	RESISTOR	33kΩ ,1/6W
R341	QRD161J-223	RESISTOR	22kΩ ,1/6W
R342	QRD161J-273	RESISTOR	27kΩ ,1/6W
R343	QRD161J-222	RESISTOR	2.2kΩ ,1/6W
R344	QRD161J-181	RESISTOR	180Ω ,1/6W
R345	QRD161J-223	RESISTOR, 522	22kΩ ,1/6W
R346	QRD161J-222	RESISTOR	2.2kΩ ,1/6W
R347	QRD161J-222	RESISTOR	2.2kΩ ,1/6W
R348	QRD161J-391	RESISTOR	390Ω ,1/6W
R349	QRD161J-391	RESISTOR	390Ω ,1/6W
R350	QRD161J-392	RESISTOR	3.9kΩ ,1/6W
R351	QRD161J-333	RESISTOR	33kΩ ,1/6W
R352	QRD161J-103	RESISTOR	10kΩ ,1/6W
R354	QRD161J-102	RESISTOR	1kΩ ,1/6W
R355	QRD161J-182	RESISTOR	1.8kΩ ,1/6W
R356	QRD161J-391	RESISTOR	390Ω ,1/6W
R357	QRD161J-391	RESISTOR	390Ω ,1/6W

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R358	QRD161J-392	RESISTOR	3.9kΩ ,1/6W
R359	QRD161J-333	RESISTOR	33kΩ ,1/6W
R360	QRD161J-103	RESISTOR	10kΩ ,1/6W
R362	QRD161J-102	RESISTOR	1kΩ ,1/6W
R363	QRD161J-182	RESISTOR	1.8kΩ ,1/6W
R364	QRD161J-332	RESISTOR	3.3kΩ ,1/6W
R365	QRD161J-102	RESISTOR	1kΩ ,1/6W
R366	QRD161J-102	RESISTOR	1kΩ ,1/6W
R367	QRD161J-102	RESISTOR	1kΩ ,1/6W
R368	QRV141F-5600AY	CMF RESISTOR	560Ω ,1/4W
R373	QRD161J-391	RESISTOR	390Ω ,1/6W
R374	QRD161J-0R0	RESISTOR	0Ω ,1/6W
R375	QRD161J-331	RESISTOR	330Ω ,1/6W
R376	QRD161J-223	RESISTOR	22kΩ ,1/6W
R398	QRD161J-393	RESISTOR	39kΩ ,1/6W
R399	QRD161J-103	RESISTOR	10kΩ ,1/6W
R400	QRD161J-102	RESISTOR	1kΩ ,1/6W
R401	QRD161J-391	RESISTOR	390Ω ,1/6W
R402	QRD161J-102	RESISTOR	1kΩ ,1/6W
R403	QRD161J-102	RESISTOR	1kΩ ,1/6W
R404	QRD161J-102	RESISTOR	1kΩ ,1/6W
R406	QRD161J-471	RESISTOR	470Ω ,1/6W
R407	QRD161J-391	RESISTOR	390Ω ,1/6W
R408	QRD161J-152	RESISTOR	1.5kΩ ,1/6W
R409	QRD161J-392	RESISTOR	3.9kΩ ,1/6W
R410	QRD161J-393	RESISTOR	39kΩ ,1/6W
R411	QRD161J-103	RESISTOR	10kΩ ,1/6W
R412	QRD161J-392	RESISTOR	3.9kΩ ,1/6W
R413	QRD161J-102	RESISTOR	1kΩ ,1/6W
R414	QRD161J-102	RESISTOR	1kΩ ,1/6W
R415	QRD161J-682	RESISTOR	6.8kΩ ,1/6W
R416	QRD161J-101	RESISTOR	100Ω ,1/6W
R417	QRD161J-182	RESISTOR	1.8kΩ ,1/6W
R418	QRD161J-272	RESISTOR	2.7kΩ ,1/6W
R419	QRD161J-472	RESISTOR	4.7kΩ ,1/6W
R420	QRD161J-472	RESISTOR	4.7kΩ ,1/6W
R421	QRV141F-1301AY	CMF RESISTOR	1.30kΩ ,1/4W
R422	QRD161J-103	RESISTOR	10kΩ ,1/6W
R423	QRD161J-332	RESISTOR	3.3kΩ ,1/6W
R424	QRD161J-471	RESISTOR	470Ω ,1/6W
R425	QRD161J-391	RESISTOR	390Ω ,1/6W
R426	QRD161J-102	RESISTOR	1kΩ ,1/6W
R427	QRD161J-331	RESISTOR	330Ω ,1/6W
R428	QRD161J-682	RESISTOR	6.8kΩ ,1/6W
R429	QRD161J-222	RESISTOR	2.2kΩ ,1/6W
R430	QRD161J-223	RESISTOR	22kΩ ,1/6W
R432	QRD161J-181	RESISTOR	180Ω ,1/6W
R433	QRD161J-681	RESISTOR	680Ω ,1/6W
R434	QRD161J-0R0	RESISTOR	0Ω ,1/6W
R435	QRD161J-0R0	RESISTOR	0Ω ,1/6W
R436	QRD161J-181	RESISTOR	180Ω ,1/6W
R437	QRD161J-103	RESISTOR	10kΩ ,1/6W
R438	QRD161J-680	RESISTOR	68Ω ,1/6W
R439	QRD161J-222	RESISTOR	2.2kΩ ,1/6W
R440	QRD161J-222	RESISTOR	2.2kΩ ,1/6W

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#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R441	QRV141F-1001AY	CMF RESISTOR	1kΩ ,1／4W
C207	QFN41HK-563	M CAPACITOR	0.056μF,50V
C301	QCZ0208-104	CAPACITOR	0.1μF
C302	QCZ0208-104	CAPACITOR	0.1μF
C303	QETC1AM-476	E CAPACITOR	47μF,10V
C304	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C305	QCF31HP-102	CAPACITOR	0.001μF,50V
C306	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C307	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C308	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C309	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C310	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C311	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C312	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C313	QCS31HJ-101	CAPACITOR	100pF,50V
C314	QCF31HP-223	CAPACITOR	0.022μF,50V
C315	QETC1AM-476	E CAPACITOR	47μF,10V
C316	QCF31HP-102	CAPACITOR	0.001μF,50V
C317	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C318	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C319	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C320	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C321	QCF31HP-102	CAPACITOR	0.001μF,50V
C322	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C323	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C324	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C325	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C326	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C327	QCS31HJ-101	CAPACITOR	100pF,50V
C328	QCF31HP-223	CAPACITOR	0.022μF,50V
C329	QETC1AM-476	E CAPACITOR	47μF,10V
C330	QFN31HJ-104	M CAPACITOR	0.1μF,50V
C331	QFN31HJ-104	M CAPACITOR	0.1μF,50V
C332	QETC1CM-476	E CAPACITOR	47μF,16V
C333	QCZ0208-104	CAPACITOR	0.1μF
C334	QCZ0208-104	CAPACITOR	0.1μF
C335	QETC1CM-476	E CAPACITOR	47μF,16V
C336	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C337	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C338	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C339	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C340	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C341	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C342	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C343	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C344	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C345	QCF31HP-223	CAPACITOR	0.022μF,50V
C346	QCZ0208-104	CAPACITOR	0.1μF
C347	QCZ0208-104	CAPACITOR	0.1μF
C348	QETC1AM-476	E CAPACITOR	47μF,10V
C349	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C350	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C351	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C352	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C353	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C354	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C355	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C357	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C358	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C359	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C360	QCS31HJ-101	CAPACITOR	100pF,50V
C361	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C362	QFN31HJ-223	M CAPACITOR, 522	0.022μF,50V
C363	QETC1CM-476	E CAPACITOR	47μF,16V
C364	QCS31HJ-271	CAPACITOR	270pF,50V
C365	QCZ0208-104	CAPACITOR	0.1μF
C366	QETC1HM-105	E CAPACITOR	1μF,50V
C367	QCZ0208-104	CAPACITOR	0.1μF
C368	QCZ0208-104	CAPACITOR	0.1μF
C369	QETC1CM-476	E CAPACITOR	47μF,16V
C379	QETC1CM-476	E CAPACITOR	47μF,16V
C380	QCS31HJ-681	CAPACITOR	680pF,50V
C381	QETC1CM-476	E CAPACITOR	47μF,16V
C382	QCS31HJ-471	CAPACITOR	470pF,50V
C383	QETC1CM-476	E CAPACITOR	47μF,16V
C384	QCF31HP-223	CAPACITOR	0.022μF,50V
C385	QETC1CM-476	E CAPACITOR	47μF,16V
C386	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C387	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C388	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C389	QFN31HJ-332	M CAPACITOR	0.0033μF,50V
C390	QFN31HJ-332	M CAPACITOR	0.0033μF,50V
C391	QFN31HJ-104	M CAPACITOR	0.1μF,50V
C392	QCS31HJ-151	CAPACITOR	150pF,50V
C393	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C394	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C395	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C396	QFN31HJ-103	M CAPACITOR	0.01μF,50V
L301	PU48530-100J	COIL	10μH
L302	PU48530-100J	COIL	10μH
L304	PU48530-8R2J	COIL	8.2μH
L305	PGZ00973	COIL	
L306	PU48530-100J	COIL	10μH
L307	PGZ00973	COIL	
L308	PGZ00973	COIL	
L309	PU48530-100J	COIL	10μH
L312	PU48530-680J	COIL	68μH
L313	PU48530-680J	COIL	68μH
L315	PU48530-471J	COIL	470μH
L316	PU48530-390J	COIL	39μH
EQ301	PGZ01196	EQUALIZE	
DL301	PGZ01558	DELAY LINE	
DL302	PGZ01559	DELAY LINE	
DL304	PGZ00974-02	DELAY LINE	
DL305	PGZ00487	DELAY LINE	

⚠REF No.	PART No.	PART NAME, DESCRIPTION
SW301	YU40137	SLIDE SWITCH
SW302	YU40137	SLIDE SWITCH
SW303	YU40137	SLIDE SWITCH
TH301	ERT-D2FGL601S	THERMISTOR
TH302	ERT-D2FGL601S	THERMISTOR
TH303	ERT-D2FGL301S	THERMISTOR
EJ1	PGZ00582	EJECTOR, ×2
RV1	PU53276	PLASTIC RIVET, ×4
SLD1	PRD30781-01-03	SHIELD PLATE
TP31	PU54983	TEST PIN, ×13(522) ×10(525)
CN1	PGZ00421-44	MALE CONNECTOR
CN2	PGZ00421-44	MALE CONNECTOR

- SWITCH BOARD ASSY, 525 -

PWBA	PRK20250A1	SWITCH 1 BOARD ASSY	
IC1	TA7347P	I.C.(M)	
Q1	2SC2412K(QR)	TRANSISTOR	
Q2	2SC2412K(QR)	TRANSISTOR	
Q3	2SC2412K(QR)	TRANSISTOR	
D1	DAP202K	DIODE	
R1	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R2	QRSA08J-183YN	RESISTOR	18kΩ,1/10W
R3	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R4	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R5	QRSA08J-391YN	RESISTOR	390Ω,1/10W
R6	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R7	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R8	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R28	NVP1415-102N	V RESISTOR	1kΩ,1/4W
C1	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C2	QCSA1HJ-470	CAPACITOR	47pF,50V
C3	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C4	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C5	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C6	QCFA1EZ-104	CAPACITOR	0.1μF,25V

#⚠REF No.	PART No.	PART NAME, DESCRIPTION
SW1	PU54440	SWITCH
PJ1	PGZ01838-01	CONNECTOR
PJ2	PGZ01838-01	CONNECTOR
PJ3	PGZ01838-01	CONNECTOR
TP1	PU45908-2	TEST PIN
TP2	PU45908-2	TEST PIN
TP39	PGZ01015	TEST PIN

- BURST SWITCH BOARD ASSEMBLY -

PWBA	PRK20187A	BURST SWITCH BOARD ASSY	
IC1	TA7347P	I.C.(M)	
IC2	TA7347P	I.C.(M)	
Q1	DTC144EK	TRANSISTOR	
Q2	2SC2412K(RS)	TRANSISTOR	
Q3	2SA1037K(QR)	TRANSISTOR	
Q4	2SC2412K(RS)	TRANSISTOR	
Q5	2SC2412K(RS)	TRANSISTOR	
R1	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R2	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R3	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R4	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R5	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R6	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R7	QRSA08J-183YN	RESISTOR	18kΩ,1/10W
R8	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R9	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R10	QRSA08J-271YN	RESISTOR	270Ω,1/10W
R11	QRSA08J-183YN	RESISTOR	18kΩ,1/10W
R12	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R13	QVZ3513-102	V RESISTOR	1kΩ
R14	QVZ3513-102	V RESISTOR	1kΩ
C1	QCYA1EK-103	CAPACITOR	0.01μF,25V
C2	QCYA1EK-103	CAPACITOR	0.01μF,25V
C3	QCTA1CH-101	CAPACITOR	100pF,16V
C4	QCYA1EK-103	CAPACITOR	0.01μF,25V
C5	QCFA1HZ-104	CAPACITOR	0.1μF,50V
C6	QCFA1HZ-104	CAPACITOR	0.1μF,50V
C7	QCYA1EK-103	CAPACITOR	0.01μF,25V
L1	PU48530-471K	COIL	470μH
L2	PU48530-471K	COIL	470μH

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#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
SW1	PU54440	SWITCH	
CN1	QMV5001-007	CONNECTOR	

- SWITCH-2 BOARD ASSY, 525 -

PWBA	PRK20250A2	SWITCH 2 BOARD ASSY	
IC1	TC4W66F	I.C.(M)	
D1	DAP202K	DIODE	
R1	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R2	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R27	NVP1415-501N	V RESISTOR	500Ω,1/4W
C1	QCFA1EZ-104	CAPACITOR	0.1μF,25V
PJ1	PGZ01838-01	CONNECTOR	
PJ2	PGZ01838-01	CONNECTOR	
PJ3	PGZ01838-02	CONNECTOR	
PJ4	PGZ01838-02	CONNECTOR	

PRE/REC BOARD ASSEMBLY <15>

PWBA	PRK30089A	PRE AMP BOARD ASSY, 525	
	PRK30072A-03	PRE AMP BOARD ASSY, 522	
IC1	M5278L05M	I.C.(M)	
IC2	UPC2320GS	I.C.(M)	
Q1	IMD2	TRANSISTOR	
Q2	IMH5	TRANSISTOR	
Q3	2SD601(Q)	TRANSISTOR	
Q4	DTC114EK	TRANSISTOR, 525	
Q5	DTC114EK	TRANSISTOR, 525	
R1	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R2	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R3	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R4	QRSA08J-221YN	RESISTOR	220Ω,1/10W
R5	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R6	QRSA08J-331YN	RESISTOR	330Ω,1/10W

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R7	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R8	QRSA08J-220YN	RESISTOR, 522	22Ω,1/10W
R9	QRSA08J-3R9YN	RESISTOR, 522	3.9Ω,1/10W
R10	QRSA08J-3R9YN	RESISTOR, 522	3.9Ω,1/10W
R11	QRSA08J-220YN	RESISTOR, 522	22Ω,1/10W
R12	QRSA08J-220YN	RESISTOR	22Ω,1/10W
R13	QRSA08J-3R9YN	RESISTOR	3.9Ω,1/10W
R14	QRSA08J-3R9YN	RESISTOR	3.9Ω,1/10W
R15	QRSA08J-220YN	RESISTOR	22Ω,1/10W
R16	QRSA08J-0R0Y	RESISTOR, 525	0Ω,1/10W
R16	QRSA08J-6R8YN	RESISTOR, 522	6.8Ω,1/10W
R17	QRSA08J-680YN	RESISTOR, 522	68Ω,1/10W
R19	QRSA08J-103YN	RESISTOR, 525	10kΩ,1/10W
R22	QRSA08J-0R0Y	RESISTOR, 525	0Ω,1/10W
C1	QEF81AM-336	TANTAL CAPACITOR	33μF,10V
C2	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C3	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C4	QCYA1EK-104	CAPACITOR	0.1μF,25V
C5	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C6	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C7	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C8	QEF81EM-474	TANTAL CAPACITOR	0.47μF,25V
C9	QCYA1HK-473	CAPACITOR	0.047μF,50V
C10	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C11	QEF81EM-474	TANTAL CAP, 522	0.47μF,25V
C12	QCYA1HK-222	CAPACITOR, 522	0.0022μF,50V
C13	QCYA1HK-222	CAPACITOR, 522	0.0022μF,50V
C14	QEF81EM-474	TANTAL CAP, 522	0.47μF,25V
C15	QEF81EM-474	TANTAL CAPACITOR	0.47μF,25V
C16	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
C17	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
C18	QEF81EM-474	TANTAL CAPACITOR	0.47μF,25V
C19	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C20	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C21	QCFA1EZ-104	CAPACITOR, 525	0.1μF,25V
C21	QEF80JM-106	TANTAL CAP, 522	10μF,6.3V
C22	QEF81CM-225	TANTAL CAP, 522	2.2μF,16V
L1	YU41135-221K	COIL	220μH

R/P ADJUST BOARD ASSEMBLY <16>

PWBA	PGE20351D-02	R/P ADJUST BOARD ASSY, 522	
	PGE20351F-01	R/P ADJUST BOARD ASSY, 525	
STK1	PRD30072-56	STICKER	
IC3	M5278L05	I.C.(M)	
IC5	M5278L12	I.C.(M)	
IC6	M5278L12	I.C.(M)	

⚠REF No.	PART No.	PART NAME, DESCRIPTION
IC7	M5278L05	I.C.(M)
IC8	M5278L09	I.C.(M)
IC14	TC74HC04AP	I.C.(M)
IC15	TC4013BP	I.C.(M)
IC16	TC4073BP	I.C.(M)
IC20	AN607P	I.C.(M)
IC21	TA7347P	I.C.(M)
IC22	TC4053BP	I.C.(M)
IC23	AN3398	I.C.(M)
IC24	TC74HC00AP	I.C.(M)
IC28	AN607P	I.C.(M)
IC29	AN607P	I.C.(M)
Q23	DTC144ES	TRANSISTOR
Q24	DTC144ES	TRANSISTOR
Q29	2SC1740S(QRS)	TRANSISTOR
Q30	2SA933S(RS)	TRANSISTOR
Q33	2SC1740S(QRS)	TRANSISTOR
Q34	2SC1740S(QRS)	TRANSISTOR
Q36	2SC1740S(QRS)	TRANSISTOR
Q37	2SC1740S(QRS)	TRANSISTOR
Q38	2SC1740S(QRS)	TRANSISTOR
Q40	2SC1740S(QRS)	TRANSISTOR
Q41	2SC1740S(QRS)	TRANSISTOR
Q42	2SC1740S(QRS)	TRANSISTOR, 522
Q43	2SC1740S(QRS)	TRANSISTOR
Q44	2SC1740S(QRS)	TRANSISTOR
Q45	2SC1740S(QRS)	TRANSISTOR
Q46	2SC1740S(QRS)	TRANSISTOR
Q47	2SC1740S(QRS)	TRANSISTOR
Q48	2SC1740S(QRS)	TRANSISTOR
Q49	2SC1740S(QRS)	TRANSISTOR
Q50	2SK656	FE TRANSISTOR
Q51	2SK656	FE TRANSISTOR
Q52	2SK656	FE TRANSISTOR
Q53	2SK656	FE TRANSISTOR
Q54	2SK656	FE TRANSISTOR
Q55	2SK656	FE TRANSISTOR
Q56	2SK656	FE TRANSISTOR
Q57	2SK656	FE TRANSISTOR
Q63	2SK656	FE TRANSISTOR
Q64	2SK656	FE TRANSISTOR
D5	1SS133	DIODE
D9	1SS133	DIODE
D10	1SS133	DIODE
D12	1SS133	DIODE
D14	1SS133	DIODE
D15	1SS133	DIODE
D17	1SS133	DIODE
D18	1SS133	DIODE
D19	1SS133	DIODE
D24	1SS133	DIODE, 522

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R13	QVPB610-202	V RESISTOR	2kΩ
R14	QVPB610-202	V RESISTOR	2kΩ
R15	QVPB610-202	V RESISTOR	2kΩ
R16	QVPB610-202	V RESISTOR	2kΩ
R17	QVZ3513-473	V RESISTOR	47kΩ
R164	QRD161J-102	RESISTOR	1kΩ,1/6W
R165	QRD161J-104	RESISTOR	100kΩ,1/6W
R166	QRD161J-103	RESISTOR	10kΩ,1/6W
R167	QRD161J-103	RESISTOR	10kΩ,1/6W
R173	QRD161J-0R0	RESISTOR	0Ω,1/6W
R174	QRD161J-0R0	RESISTOR	0Ω,1/6W
R177	QRD161J-103	RESISTOR	10kΩ,1/6W
R178	QRD161J-103	RESISTOR	10kΩ,1/6W
R179	QRD161J-103	RESISTOR	10kΩ,1/6W
R180	QRD161J-103	RESISTOR	10kΩ,1/6W
R187	QRD161J-0R0	RESISTOR, 525	0Ω,1/6W
R188	QRD161J-333	RESISTOR	33kΩ,1/6W
R189	QRD161J-183	RESISTOR	18kΩ,1/6W
R190	QRD161J-181	RESISTOR	180Ω,1/6W
R192	QRD161J-102	RESISTOR	1kΩ,1/6W
R193	QRD161J-472	RESISTOR	4.7kΩ,1/6W
R194	QRD161J-152	RESISTOR	1.5kΩ,1/6W
R195	QRD161J-332	RESISTOR	3.3kΩ,1/6W
R196	QRD161J-102	RESISTOR	1kΩ,1/6W
R200	QRD161J-333	RESISTOR	33kΩ,1/6W
R201	QRD161J-562	RESISTOR	5.6kΩ,1/6W
R202	QRD161J-332	RESISTOR	3.3kΩ,1/6W
R203	QRD161J-561	RESISTOR	560Ω,1/6W
R204	QRD161J-332	RESISTOR	3.3kΩ,1/6W
R206	QRD161J-332	RESISTOR	3.3kΩ,1/6W
R207	QRD161J-122	RESISTOR	1.2kΩ,1/6W
R208	QRD161J-122	RESISTOR	1.2kΩ,1/6W
R209	QRD161J-122	RESISTOR	1.2kΩ,1/6W
R210	QRD161J-122	RESISTOR	1.2kΩ,1/6W
R211	QRD161J-822	RESISTOR	8.2kΩ,1/6W
R212	QRD161J-123	RESISTOR	12kΩ,1/6W
R213	QRD161J-333	RESISTOR	33kΩ,1/6W
R214	QRD161J-123	RESISTOR	12kΩ,1/6W
R215	QRD161J-102	RESISTOR	1kΩ,1/6W
R216	QRD161J-102	RESISTOR, 522	1kΩ,1/6W
R217	QRD161J-152	RESISTOR	1.5kΩ,1/6W
R218	QRD161J-222	RESISTOR	2.2kΩ,1/6W
R219	QRD161J-331	RESISTOR	330Ω,1/6W
R220	QRD161J-102	RESISTOR	1kΩ,1/6W
R221	QRD161J-332	RESISTOR	3.3kΩ,1/6W
R222	QRD161J-222	RESISTOR	2.2kΩ,1/6W
R223	QRD161J-122	RESISTOR	1.2kΩ,1/6W
R225	QRD161J-332	RESISTOR	3.3kΩ,1/6W
R226	QRD161J-102	RESISTOR	1kΩ,1/6W
R227	QRD161J-102	RESISTOR	1kΩ,1/6W
R228	QRD161J-333	RESISTOR	33kΩ,1/6W
R229	QRD161J-123	RESISTOR	12kΩ,1/6W
R230	QRD161J-102	RESISTOR	1kΩ,1/6W

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#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R231	QRD161J-102	RESISTOR	1kΩ,1／6W
R232	QRD161J-561	RESISTOR	560Ω,1／6W
R233	QRD161J-152	RESISTOR	1.5kΩ,1／6W
R234	QRD161J-561	RESISTOR	560Ω,1／6W
R235	QRD161J-102	RESISTOR	1kΩ,1／6W
R236	QRD161J-332	RESISTOR	3.3kΩ,1／6W
R237	QRD161J-122	RESISTOR	1.2kΩ,1／6W
R238	QRD161J-122	RESISTOR	1.2kΩ,1／6W
R239	QRD161J-332	RESISTOR	3.3kΩ,1／6W
R240	QRD161J-681	RESISTOR	680Ω,1／6W
R241	QRD161J-332	RESISTOR	3.3kΩ,1／6W
R242	QRD161J-332	RESISTOR	3.3kΩ,1／6W
R243	QRD161J-332	RESISTOR	3.3kΩ,1／6W
R244	QRD161J-102	RESISTOR	1kΩ,1／6W
R245	QRD161J-332	RESISTOR	3.3kΩ,1／6W
R246	QRD161J-332	RESISTOR	3.3kΩ,1／6W
R247	QRD161J-222	RESISTOR	2.2kΩ,1／6W
R248	QRD161J-182	RESISTOR	1.8kΩ,1／6W
R249	QRD161J-750	RESISTOR	75Ω,1／6W
R250	QRD161J-563	RESISTOR	56kΩ,1／6W
R251	QRD161J-103	RESISTOR	10kΩ,1／6W
R252	QRD161J-103	RESISTOR	10kΩ,1／6W
R253	QRD161J-103	RESISTOR	10kΩ,1／6W
R254	QRD161J-153	RESISTOR	15kΩ,1／6W
R255	QRD161J-103	RESISTOR	10kΩ,1／6W
R256	QRD161J-103	RESISTOR	10kΩ,1／6W
R257	QRD161J-103	RESISTOR	10kΩ,1／6W
R258	QRD161J-103	RESISTOR	10kΩ,1／6W
R259	QRD161J-102	RESISTOR	1kΩ,1／6W
R260	QRD161J-153	RESISTOR	15kΩ,1／6W
R261	QRD161J-123	RESISTOR	12kΩ,1／6W
R262	QRD161J-153	RESISTOR	15kΩ,1／6W
R263	QRD161J-123	RESISTOR	12kΩ,1／6W
R264	QRD161J-153	RESISTOR	15kΩ,1／6W
R265	QRD161J-123	RESISTOR	12kΩ,1／6W
R267	QRD161J-153	RESISTOR	15kΩ,1／6W
R268	QRD161J-122	RESISTOR	1.2kΩ,1／6W
R269	QRD161J-103	RESISTOR	10kΩ,1／6W
R270	QRD161J-392	RESISTOR	3.9kΩ,1／6W
R271	QRD161J-332	RESISTOR	3.3kΩ,1／6W
R283	QRD161J-681	RESISTOR	680Ω,1／6W
R288	QRD161J-181	RESISTOR	180Ω,1／6W
R291	QRD161J-123	RESISTOR	12kΩ,1／6W
R292	QRD161J-153	RESISTOR	15kΩ,1／6W
R305	QRD161J-221	RESISTOR, 522	220Ω,1／6W
C32	QCC31CK-104	CAPACITOR	0.1μF,16V
C33	QETC1AM-476	E CAPACITOR	47μF,10V
C34	QCC31CK-104	CAPACITOR	0.1μF,16V
C51	QCC31CK-104	CAPACITOR	0.1μF,16V
C52	QETC1CM-476	E CAPACITOR	47μF,16V
C53	QCC31EK-104	CAPACITOR	0.1μF,25V
C54	QENC1HM-105	NP E CAPACITOR, 525	1μF,50V
C55	QFN31HK-103	M CAPACITOR	0.01μF,50V

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
C56	QCC31CK-104	CAPACITOR	0.1μF,16V
C57	QCS31HJ-220	CAPACITOR	22pF,50V
C58	QFN31HK-103	M CAPACITOR	0.01μF,50V
C59	QFN31HK-103	M CAPACITOR	0.01μF,50V
C61	QFN31HK-223	M CAPACITOR	0.022μF,50V
C62	QCS31HJ-561	CAPACITOR	560pF,50V
C63	QFN31HK-102	M CAPACITOR	0.001μF,50V
C64	QCS31HJ-390	CAPACITOR	39pF,50V
C65	QFN31HK-103	M CAPACITOR	0.01μF,50V
C66	QCS31HJ-271	CAPACITOR	270pF,50V
C67	QFN31HJ-102	M CAPACITOR	0.001μF,50V
C68	QCS31HJ-220	CAPACITOR	22pF,50V
C69	QFN31HK-103	M CAPACITOR	0.01μF,50V
C70	QFN31HK-103	M CAPACITOR, 522	0.01μF,50V
C71	QCC31CK-104	CAPACITOR	0.1μF,16V
C72	QCS11HJ-330	CAPACITOR	33pF,50V
C73	QCS31HJ-100	CAPACITOR	10pF,50V
C74	QFN31HK-473	M CAPACITOR	0.047μF,50V
C75	QCS31HJ-471	CAPACITOR	470pF,50V
C76	QCS31HJ-101	CAPACITOR	100pF,50V
C77	QFN31HK-103	M CAPACITOR	0.01μF,50V
C78	QCC31CK-104	CAPACITOR	0.1μF,16V
C80	QCS31HJ-220	CAPACITOR	22pF,50V
C81	QFN31HK-473	M CAPACITOR	0.047μF,50V
C82	QCC31CK-104	CAPACITOR	0.1μF,16V
C83	QCS31HJ-120	CAPACITOR	12pF,50V
C84	QCS31HJ-470	CAPACITOR	47pF,50V
C85	QCC31CK-104	CAPACITOR	0.1μF,16V
C86	QETC1CM-476	E CAPACITOR	47μF,16V
C87	QCC31EK-104	CAPACITOR	0.1μF,25V
C88	QFN31HK-103	M CAPACITOR	0.01μF,50V
C89	QCS31HJ-7R0	CAPACITOR	7pF,50V
C90	QFN31HK-103	M CAPACITOR	0.01μF,50V
C91	QCC31CK-104	CAPACITOR	0.1μF,16V
C92	QCC31CK-104	CAPACITOR	0.1μF,16V
C93	QETC1AM-476	E CAPACITOR	47μF,10V
C94	QETC1HM-474	E CAPACITOR	0.47μF,50V
C95	QETC1HM-475	E CAPACITOR	4.7μF,50V
C96	QENC1HM-475	NP E CAPACITOR	4.7μF,50V
C97	QETC1HM-225	E CAPACITOR	2.2μF,50V
C98	QCC31CK-104	CAPACITOR	0.1μF,16V
C99	QETC1CM-476	E CAPACITOR	47μF,16V
C100	QCC31EK-104	CAPACITOR	0.1μF,25V
C119	QFN31HK-103	M CAPACITOR	0.01μF,50V
C121	QFN31HK-103	M CAPACITOR	0.01μF,50V
C129	QFN41HJ-223	M CAPACITOR	0.022μF,50V
C130	QCS11HJ-100	CAPACITOR	10pF,50V
C137	QCS11HJ-221	CAPACITOR, 522	220pF,50V
C138	QFN41HJ-223	M CAPACITOR, 522	0.022μF,50V
L8	PU48530-471J	COIL	470μH
L9	PGZ00917-822	COIL	
L11	PU48530-101J	COIL	100μH
L12	PU48530-680J	COIL	68μH

⚠REF No.	PART No.	PART NAME, DESCRIPTION	
L13	PU48530-221J	COIL	220 μ H
L14	PU48530-330J	COIL	33 μ H
L15	PU48530-8R2J	COIL, 525	8.2 μ H
L16	PU48530-101J	COIL	100 μ H
L17	PU48530-330J	COIL	33 μ H
L18	PU48530-330J	COIL	33 μ H
L19	PU48530-220J	COIL	22 μ H
L20	PU48530-150J	COIL	15 μ H
L29	PU48530-330J	COIL	33 μ H
L30	PU48530-151J	COIL	150 μ H
LPF	PGZ00630	LOW PASS FILTER	
S2	PU54440	SWITCH, 525	
EJ1	PGZ00582	EJECTOR, × 2	
RV1	PU53276	PLASTIC RIVET, × 4	
SLD1	PRD30781-02-03	SHIELD PLATE	
TP1	PU54983	TEST PIN, × 18	
CN1	PGZ00421-64	MALE CONNECTOR	

- R/P ADJUST SUB-2 ASSY -

PWBA	PRK30086A2	R/P ADJ SUB-2 BOARD ASSY	
R191	QRD161J-102	RESISTOR	1kΩ,1/6W
R297	QRD161J-122	RESISTOR	1.2kΩ,1/6W
C131	QCS31HJ-121	CAPACITOR	120pF,50V
L25	PU53223-471J	COIL	470 μ H
CN3	PGZ00190-003	CONNECTOR	

- R/P ADJUST SUB ASSY -

PWBA	PRK20204B	R/P ADJ SUB BOARD ASSY	
R298	QRSA08J-182YN	RESISTOR	1.8kΩ,1/10W
C125	QCYA1HK-103	CAPACITOR	0.01 μ F,50V

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	

- R/P SUB-1 ASSY, 525 -

PWBA	PRK20240A	R/P SUB-1 BOARD ASSY	
Q42	2SC1740S(QRS)	TRANSISTOR	
C137	QCS31HJ-221	CAPACITOR	220pF,50V
L30	PU48530-151J	COIL	150 μ H
CN10	PGZ00190-003	CONNECTOR	

- R/P SUB-2 ASSY, 525 -

PWBA	PRK20241A	R/P SUB-2 BOARD ASSY	
R216	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R305	QRSA08J-221YN	RESISTOR	220Ω,1/10W
C70	QCYA1HK-103	CAPACITOR	0.01 μ F,50V
C138	QCYA1HK-223	CAPACITOR	0.022 μ F,50V

Y COMB BOARD ASSEMBLY <17>

PWBA	PRK20125B-01	Y COMB BOARD ASSY, 522
	PRK20223A	Y COMB BOARD ASSY, 525
STK1	PRD30072-55	STICKER
IC1	M5278L12	I.C.(M)
IC3	M5278L12	I.C.(M)
IC4	M5278L05	I.C.(M)
IC5	M5278L12	I.C.(M)
IC6	M5278L05	I.C.(M)
IC7	M5278L05	I.C.(M)

#⚠REF No.	PART No.	PART NAME, DESCRIPTION
IC8	M5278L05	I.C.(M)
IC9	M5278L05	I.C.(M)
IC10	M5278L12	I.C.(M)
IC11	M5278L05	I.C.(M)
IC12	M5278L05	I.C.(M)
IC13	M5278L05	I.C.(M)
IC14	M5278L05	I.C.(M)
IC15	M5278L05	I.C.(M)
IC25	TA7347P	I.C.(M)
IC26	8VT15	I.C.(M)
	or HMC-229	I.C.(M)
IC27	LA7222	I.C.(M)
IC28	JCL0009	I.C.(M)
IC29	M51957BL	I.C.(M)
IC30	TC7W04F	I.C.(M)
IC31	JCL0012	I.C.(M)
IC32	8VT15	I.C.(M)
	or HMC-229	I.C.(M)
IC33	TA7347P	I.C.(M)
IC34	TA7347P	I.C.(M)
IC35	AN3916	I.C.(M)
IC36	TC74HC4538AP	I.C.(M)
IC37	AN607P	I.C.(M)
IC38	SN16913P	I.C.(M)
IC39	UPC319C	I.C.(M)
IC40	TC7W04F	I.C.(M)
IC41	AN608P	I.C.(M)
Q10	2SA1037K(QR)	TRANSISTOR
Q11	2SC2412K(RS)	TRANSISTOR
Q12	2SA1037K(QR)	TRANSISTOR
Q13	2SC2412K(RS)	TRANSISTOR
Q14	2SC2412K(RS)	TRANSISTOR
Q15	2SA1037K(QR)	TRANSISTOR
Q16	2SC2412K(RS)	TRANSISTOR
Q17	2SK656	FE TRANSISTOR
Q18	2SK656	FE TRANSISTOR
Q23	2SK656	FE TRANSISTOR
Q25	2SC2412K(RS)	TRANSISTOR
Q26	2SK656	FE TRANSISTOR
Q27	2SK656	FE TRANSISTOR
Q28	2SC2412K(RS)	TRANSISTOR
Q29	2SA1037K(QR)	TRANSISTOR
Q30	DTA144EK	TRANSISTOR
Q33	2SA1037K(QR)	TRANSISTOR
Q34	2SC2412K(RS)	TRANSISTOR
Q35	2SA1037K(QR)	TRANSISTOR
Q36	2SC2412K(RS)	TRANSISTOR
Q37	2SA1037K(QR)	TRANSISTOR
Q38	2SC2412K(RS)	TRANSISTOR
Q39	2SA1037K(QR)	TRANSISTOR
Q40	2SC2412K(RS)	TRANSISTOR
Q44	2SA1037K(QR)	TRANSISTOR
Q45	2SA1037K(QR)	TRANSISTOR

#⚠REF No.	PART No.	PART NAME, DESCRIPTION
Q46	2SK621	FE TRANSISTOR
Q47	2SC2412K(RS)	TRANSISTOR
Q48	2SC2412K(RS)	TRANSISTOR
Q49	2SA1037K(QR)	TRANSISTOR
Q50	2SC2412K(RS)	TRANSISTOR
Q51	2SK656	FE TRANSISTOR
Q52	2SC2412K(RS)	TRANSISTOR
Q53	2SC2412K(RS)	TRANSISTOR
Q55	2SK656	FE TRANSISTOR
D2	1SS133	DIODE
D8	1SS133	DIODE
D9	1SS133	DIODE
D10	1SS133	DIODE
D11	1SS133	DIODE
D12	1SS133	DIODE
D13	1SS133	DIODE
D14	1SS133	DIODE
D15	1SS133	DIODE
D16	1SS133	DIODE
D17	1SS133	DIODE
R124	QRSA08J-151YN	RESISTOR 150Ω,1／10W
R125	QRSA08J-123YN	RESISTOR 12kΩ,1／10W
R126	QRSA08J-822YN	RESISTOR 8.2kΩ,1／10W
R138	QRSA08J-223YN	RESISTOR 22kΩ,1／10W
R139	QRSA08J-273YN	RESISTOR 27kΩ,1／10W
R140	QRSA08J-272YN	RESISTOR 2.7kΩ,1／10W
R141	QRSA08J-222YN	RESISTOR 2.2kΩ,1／10W
R142	QRSA08J-560YN	RESISTOR 56Ω,1／10W
R143	QRSA08J-331YN	RESISTOR 330Ω,1／10W
R144	QRSA08J-152YN	RESISTOR 1.5kΩ,1／10W
R145	QRSA08J-272YN	RESISTOR 2.7kΩ,1／10W
R146	QRSA08J-562YN	RESISTOR 5.6kΩ,1／10W
R147	QRSA08J-393YN	RESISTOR 39kΩ,1／10W
R148	QRSA08J-153YN	RESISTOR 15kΩ,1／10W
R149	QRSA08J-393YN	RESISTOR 39kΩ,1／10W
R150	QRSA08J-153YN	RESISTOR 15kΩ,1／10W
R151	QRSA08J-392YN	RESISTOR 3.9kΩ,1／10W
R152	QRSA08J-392YN	RESISTOR 3.9kΩ,1／10W
R153	QRSA08J-471YN	RESISTOR 470Ω,1／10W
R154	NRVA62D-112N	RESISTOR 1.1kΩ,1／16W
R155	QRSA08J-562YN	RESISTOR 5.6kΩ,1／10W
R156	QRSA08J-103YN	RESISTOR 10kΩ,1／10W
R157	QRSA08J-333YN	RESISTOR 33kΩ,1／10W
R158	QRSA08J-102YN	RESISTOR 1kΩ,1／10W
R159	QRSA08J-222YN	RESISTOR 2.2kΩ,1／10W
R160	QRSA08J-182YN	RESISTOR 1.8kΩ,1／10W
R161	QRSA08J-561YN	RESISTOR 560Ω,1／10W
R162	QRSA08J-272YN	RESISTOR 2.7kΩ,1／10W
R173	QRSA08J-103YN	RESISTOR 10kΩ,1／10W
R174	QRSA08J-332YN	RESISTOR 3.3kΩ,1／10W
R175	QRSA08J-682YN	RESISTOR 6.8kΩ,1／10W
R177	QRSA08J-102YN	RESISTOR 1kΩ,1／10W

⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R179	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R180	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
R181	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R182	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R183	QRSA08J-561YN	RESISTOR	560Ω,1/10W
R184	QRSA08J-182YN	RESISTOR	1.8kΩ,1/10W
R185	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R186	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R187	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R188	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R189	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R190	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R191	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R192	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R193	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R194	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R195	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R196	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R208	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R209	QRSA08J-221YN	RESISTOR	220Ω,1/10W
R210	QRSA08J-221YN	RESISTOR	220Ω,1/10W
R211	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R212	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R213	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R214	QRSA08J-750YN	RESISTOR	75Ω,1/10W
R215	QRSA08J-152YN	RESISTOR, 525	1.5kΩ,1/10W
R215	QRSA08J-472YN	RESISTOR, 522	4.7kΩ,1/10W
R216	QRSA08J-183YN	RESISTOR	18kΩ,1/10W
R217	QRSA08J-124YN	RESISTOR, 525	120kΩ,1/10W
R217	QRSA08J-184YN	RESISTOR, 522	180kΩ,1/10W
R218	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R219	QRSA08J-273YN	RESISTOR	27kΩ,1/10W
R220	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R221	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
R222	QRSA08J-270YN	RESISTOR	27Ω,1/10W
R223	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R224	NRVA62D-201N	RESISTOR	200Ω,1/16W
R225	QRSA08J-562YN	RESISTOR	5.6kΩ,1/10W
R226	QRSA08J-393YN	RESISTOR	39kΩ,1/10W
R227	QRSA08J-153YN	RESISTOR	15kΩ,1/10W
R228	QRSA08J-393YN	RESISTOR	39kΩ,1/10W
R229	QRSA08J-153YN	RESISTOR	15kΩ,1/10W
R230	QRSA08J-392YN	RESISTOR	3.9kΩ,1/10W
R232	QRSA08J-271YN	RESISTOR	270Ω,1/10W
R233	NRVA62D-112N	RESISTOR	1.1kΩ,1/16W
R234	QRSA08J-562YN	RESISTOR	5.6kΩ,1/10W
R235	QRSA08J-272YN	RESISTOR	2.7kΩ,1/10W
R236	QRSA08J-561YN	RESISTOR	560Ω,1/10W
R237	QRSA08J-272YN	RESISTOR	2.7kΩ,1/10W
R238	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R239	QRSA08J-273YN	RESISTOR	27kΩ,1/10W
R240	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R241	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
R242	QRSA08J-270YN	RESISTOR	27Ω,1/10W
R243	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R244	NRVA62D-201N	RESISTOR	200Ω,1/16W

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R249	QRSA08J-392YN	RESISTOR	3.9kΩ,1/10W
R250	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R251	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
R252	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
R253	QRSA08J-272YN	RESISTOR	2.7kΩ,1/10W
R254	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R255	QRSA08J-272YN	RESISTOR	2.7kΩ,1/10W
R256	QRSA08J-272YN	RESISTOR	2.7kΩ,1/10W
R257	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R258	QRSA08J-151YN	RESISTOR	150Ω,1/10W
R259	QRSA08J-151YN	RESISTOR	150Ω,1/10W
R260	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R261	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R262	QRSA08J-273YN	RESISTOR	27kΩ,1/10W
R265	QRSA08J-392YN	RESISTOR	3.9kΩ,1/10W
R266	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R267	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R268	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R269	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R270	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R271	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R272	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R273	QRSA08J-183YN	RESISTOR	18kΩ,1/10W
R274	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R275	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
R276	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
R277	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R278	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R279	QRSA08J-561YN	RESISTOR	560Ω,1/10W
R280	QRSA08J-561YN	RESISTOR	560Ω,1/10W
R281	QRSA08J-392YN	RESISTOR	3.9kΩ,1/10W
R282	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R283	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R284	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R285	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R286	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R287	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R288	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R289	QRSA08J-153YN	RESISTOR	15kΩ,1/10W
R290	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R291	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R292	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R293	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R294	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R295	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
R298	QRSA08J-471YN	RESISTOR, 525	470Ω,1/10W
R298	QRD161J-471	RESISTOR, 522	470Ω,1/6W
R300	QRD161J-471	RESISTOR, 522	470Ω,1/6W
R300	QRSA08J-471YN	RESISTOR, 525	470Ω,1/10W
R301	QRSA08J-394YN	RESISTOR, 525	390kΩ,1/10W
C1	QCFA1HZ-104	CAPACITOR	0.1μF,50V
C2	QCFA1HZ-104	CAPACITOR	0.1μF,50V
C3	QETC1CM-476	E CAPACITOR	47μF,16V
C25	QETC1AM-476	E CAPACITOR	47μF,10V

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#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
C27	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C34	QCFA1HZ-104	CAPACITOR	0.1 μ F,50V
C35	QCFA1HZ-104	CAPACITOR	0.1 μ F,50V
C36	QETC1CM-476	E CAPACITOR	47 μ F,16V
C37	QETC1AM-107	E CAPACITOR	100 μ F,10V
C38	QETC0JM-227	E CAPACITOR	220 μ F,6.3V
C39	QCSA1HJ-390	CAPACITOR	39pF,50V
C40	QETC1AM-107	E CAPACITOR	100 μ F,10V
C41	QETC1AM-476	E CAPACITOR	47 μ F,10V
C43	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C44	QCFA1HZ-104	CAPACITOR	0.1 μ F,50V
C45	QCFA1HZ-104	CAPACITOR	0.1 μ F,50V
C46	QETC1AM-476	E CAPACITOR	47 μ F,10V
C47	QETC1AM-226	E CAPACITOR	22 μ F,10V
C48	QCSA1HJ-390	CAPACITOR	39pF,50V
C49	QCSA1HJ-121	CAPACITOR	120pF,50V
C50	QENC1HM-105	NP E CAPACITOR	1 μ F,50V
C51	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C52	QCFA1HZ-104	CAPACITOR	0.1 μ F,50V
C53	QCFA1HZ-104	CAPACITOR	0.1 μ F,50V
C54	QETC1CM-476	E CAPACITOR	47 μ F,16V
C58	QCFA1HZ-104	CAPACITOR	0.1 μ F,50V
C59	QCFA1HZ-104	CAPACITOR	0.1 μ F,50V
C60	QETC1AM-476	E CAPACITOR	47 μ F,10V
C61	QCFA1HZ-104	CAPACITOR	0.1 μ F,50V
C62	QCFA1HZ-104	CAPACITOR	0.1 μ F,50V
C63	QENC1HM-105	NP E CAPACITOR	1 μ F,50V
C64	QETC1AM-226	E CAPACITOR	22 μ F,10V
C65	QCFA1HZ-104	CAPACITOR	0.1 μ F,50V
C66	QCFA1HZ-104	CAPACITOR	0.1 μ F,50V
C67	QETC1CM-476	E CAPACITOR	47 μ F,16V
C72	QCYA1EK-223	CAPACITOR	0.022 μ F,25V
C73	QETC1AM-476	E CAPACITOR	47 μ F,10V
C75	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C76	QCFA1HZ-104	CAPACITOR	0.1 μ F,50V
C77	QCFA1HZ-104	CAPACITOR	0.1 μ F,50V
C78	QETC1AM-476	E CAPACITOR	47 μ F,10V
C79	QCFA1HZ-104	CAPACITOR	0.1 μ F,50V
C80	QCFA1HZ-104	CAPACITOR	0.1 μ F,50V
C81	QETC1AM-476	E CAPACITOR	47 μ F,10V
C82	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C83	QETC1HM-105	E CAPACITOR	1 μ F,50V
C84	QCFA1HZ-104	CAPACITOR	0.1 μ F,50V
C85	QCFA1HZ-104	CAPACITOR	0.1 μ F,50V
C86	QETC1AM-476	E CAPACITOR	47 μ F,10V
C87	QCFA1HZ-104	CAPACITOR	0.1 μ F,50V
C88	QCFA1HZ-104	CAPACITOR	0.1 μ F,50V
C89	QETC1AM-476	E CAPACITOR	47 μ F,10V
C90	QETC1EM-475	E CAPACITOR	4.7 μ F,25V
C91	QCFA1HZ-104	CAPACITOR	0.1 μ F,50V
C92	QCFA1HZ-104	CAPACITOR	0.1 μ F,50V
C93	QETC1AM-476	E CAPACITOR	47 μ F,10V
C94	QCYA1EK-103	CAPACITOR	0.01 μ F,25V
C95	QCYA1EK-103	CAPACITOR	0.01 μ F,25V
C96	QCYA1EK-103	CAPACITOR	0.01 μ F,25V
C97	QCSA1HK-101	CAPACITOR, 525	100pF,50V

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
C97	QCTA1CH-221	CAPACITOR, 522	220pF,16V
C98	QCFA1HZ-104	CAPACITOR	0.1 μ F,50V
C99	QCFA1HZ-104	CAPACITOR	0.1 μ F,50V
C100	QETC1AM-476	E CAPACITOR	47 μ F,10V
C101	QCFA1HZ-104	CAPACITOR	0.1 μ F,50V
C102	QCFA1HZ-104	CAPACITOR	0.1 μ F,50V
C103	QETC1AM-476	E CAPACITOR	47 μ F,10V
C104	QETC1CM-107	E CAPACITOR	100 μ F,16V
C105	QETC1CM-476	E CAPACITOR	47 μ F,16V
C106	QCYA1EK-223	CAPACITOR	0.022 μ F,25V
C107	QETC0JM-227	E CAPACITOR	220 μ F,6.3V
C109	QETC1AM-476	E CAPACITOR	47 μ F,10V
C110	QETC1CM-476	E CAPACITOR	47 μ F,16V
C112	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C113	QCYA1EK-223	CAPACITOR	0.022 μ F,25V
C114	QETC1CM-476	E CAPACITOR	47 μ F,16V
C115	QCSA1HJ-680	CAPACITOR	68pF,50V
C116	QCSA1HJ-681	CAPACITOR	680pF,50V
C118	QETC1AM-107	E CAPACITOR	100 μ F,10V
C119	QETC0JM-227	E CAPACITOR	220 μ F,6.3V
C121	QETC1CM-476	E CAPACITOR	47 μ F,16V
C122	QCYA1EK-223	CAPACITOR	0.022 μ F,25V
C123	QENC1AM-226	E CAPACITOR	22 μ F,10V
C124	QETC1CM-106	E CAPACITOR	10 μ F,16V
C126	QETC1AM-476	E CAPACITOR	47 μ F,10V
C127	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C129	QETC1AM-476	E CAPACITOR	47 μ F,10V
C130	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C131	QCFA1HZ-104	CAPACITOR	0.1 μ F,50V
C132	QCFA1HZ-104	CAPACITOR	0.1 μ F,50V
C133	QETC1AM-476	E CAPACITOR	47 μ F,10V
C134	QCYA1HK-332	CAPACITOR	0.0033 μ F,50V
C135	QCFA1EZ-473	CAPACITOR	0.047 μ F,25V
C136	QETC1EM-475	E CAPACITOR	4.7 μ F,25V
C137	QETC1EM-475	E CAPACITOR	4.7 μ F,25V
C138	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C139	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C140	QCYA1HK-102	CAPACITOR	0.001 μ F,50V
C141	QCYA1HK-102	CAPACITOR	0.001 μ F,50V
C142	QETC1CM-106	E CAPACITOR	10 μ F,16V
C143	QCYA1EK-223	CAPACITOR	0.022 μ F,25V
C144	QCYA1EK-103	CAPACITOR	0.01 μ F,25V
C145	QCYA1EK-103	CAPACITOR	0.01 μ F,25V
C146	QCYA1EK-103	CAPACITOR	0.01 μ F,25V
C147	QCYA1EK-103	CAPACITOR	0.01 μ F,25V
C148	QCYA1EK-103	CAPACITOR	0.01 μ F,25V
C149	QCYA1EK-103	CAPACITOR	0.01 μ F,25V
C150	QCYA1EK-103	CAPACITOR	0.01 μ F,25V
C151	QCYA1EK-103	CAPACITOR	0.01 μ F,25V
C152	QCYA1EK-103	CAPACITOR	0.01 μ F,25V
C153	QCSA1HK-101	CAPACITOR	100pF,50V
C154	QCFA1HZ-104	CAPACITOR	0.1 μ F,50V
C157	QETC1CM-227	E CAPACITOR	220 μ F,16V
C160	QCSA1HJ-560	CAPACITOR	56pF,50V
C161	QENC1CM-476	NP E CAPACITOR	47 μ F,16V
C162	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V

⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	C163	QCSA1HJ-121	CAPACITOR	120pF,50V
	C164	QETC1CM-476	E CAPACITOR, 525	47μF,16V
	C164	QETA1CM-476	E CAPACITOR, 522	47μF,16V
	C166	QFN41HK-223	M CAPACITOR, 522	0.022μF,50V
	C166	QCYA1EK-223	M CAPACITOR, 525	0.022μF,25V
	C167	QCTA1CH-101	CAPACITOR, 525	100pF,16V
	C167	QCS11HJ-101	CAPACITOR, 522	100pF,50V
	C168	QCF11HP-102	CAPACITOR, 522	0.001μF,50V
	C168	QCYA1HK-102	CAPACITOR, 525	0.001μF,50V
	C169	QCTA1CH-101	CAPACITOR, 525	100pF,16V
	C169	QCS11HJ-101	CAPACITOR, 522	100pF,50V
	C170	QCF11HP-102	CAPACITOR, 522	0.001μF,50V
	C170	QCYA1HK-102	CAPACITOR, 525	0.001μF,50V
	L1	PU48530-221J	COIL	220μH
	L2	QRD161J-0R0	RESISTOR	0Ω,1/6W
	L4	QRD161J-0R0	RESISTOR	0Ω,1/6W
	L5	PU48530-820J	COIL	82μH
	L6	QRD161J-0R0	RESISTOR	0Ω,1/6W
	L7	QRD161J-0R0	RESISTOR	0Ω,1/6W
	L8	PU48530-100J	COIL	10μH
	L9	PU48530-100J	COIL	10μH
	L10	PU48530-471J	COIL	470μH
	L11	PU48530-100J	COIL	10μH
	LPF1	PGZ01321	LOW PASS FILTER	
	LPF2	PELN0320	LOW PASS FILTER	
	LPF5	PGZ01321	LOW PASS FILTER	
	LPF6	PELN0321	LOW PASS FILTER	
	LPF7	PGZ01321	LOW PASS FILTER	
	LPF8	PELN0321	LOW PASS FILTER	
	BPF1	PELN0396	BAND PASS FILTER	
	DL1	PGZ01558	DELAY LINE	
	SW1	QSS1K81-L01	DIP SW	
	SW2	PU54440	SWITCH	
⚠	K1	PGZ01222-001	FERRITE BEADS	
⚠	K2	PGZ01222-001	FERRITE BEADS	
⚠	K3	PGZ01222-001	FERRITE BEADS	
⚠	K4	PGZ01222-001	FERRITE BEADS	
⚠	K5	PGZ01222-001	FERRITE BEADS	
⚠	K6	PGZ01222-001	FERRITE BEADS	
⚠	K7	PGZ01222-001	FERRITE BEADS	
⚠	K8	PGZ01222-001	FERRITE BEADS	
⚠	K9	PGZ01222-001	FERRITE BEADS	
⚠	K10	PGZ01222-001	FERRITE BEADS	
⚠	K11	PGZ01222-001	FERRITE BEADS	
⚠	K12	PGZ01222-001	FERRITE BEADS	
⚠	K13	PGZ01222-001	FERRITE BEADS	
⚠	K14	PGZ01222-001	FERRITE BEADS	
⚠	K15	PGZ01222-001	FERRITE BEADS	
⚠	K16	PGZ01222-001	FERRITE BEADS	

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	⚠	K17	PGZ01222-001	FERRITE BEADS
		K999	PGZ01801	FERRITE CORE, ×4
		EJ1	PGZ00582	EJECTOR, ×2
		RV1	PU53276	PLASTIC RIVET, ×4
		SLD1	PRD30781-02-03	SHIELD PLATE
		SLD2	PGZ00660-05	M/BUS, ×2
		SLD3	PGZ00660-10	M/BUS, ×2
		TP1	PU54983	TEST PIN, ×6
		CN1	PGZ00421-64	MALE CONNECTOR

- 4FSC BOARD ASSEMBLY <39> -

REF No.	PART No.	PART NAME, DESCRIPTION	
PWBA	PRK30102B	4FSC BOARD ASSY	
IC1	NJM2240D	I.C.(M)	
IC2	TC7S04F	I.C.(M)	
Q1	2SC2412K(QR)	TRANSISTOR	
R1	NVP1415-202N	V RESISTOR	2kΩ,1/4W
R10	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R11	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R12	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R13	QRSA08J-361YN	RESISTOR	360Ω,1/10W
R14	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R15	QRSA08J-105YN	RESISTOR	1MΩ,1/10W
C10	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C11	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C12	QEF81AM-475	TANTAL CAPACITOR	4.7μF,10V
C13	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C14	QCTA1CH-5R0	CAPACITOR	5pF,16V
C15	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C16	NEH10JM-107NP	E CAPACITOR	100μF,6.3V
C17	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C18	QCFA1HZ-103	CAPACITOR	0.01μF,50V
PJ1	PGZ01838-01	CONNECTOR	
TP1	PGZ01015	TEST PIN	

#⚠REF No.	PART No.	PART NAME, DESCRIPTION
CN1	PGZ01839-01	CONNECTOR, ×4

OUTPUT BOARD ASSEMBLY <19>

#⚠REF No.	PART No.	PART NAME, DESCRIPTION
PWBA	PRK20124D	OUTPUT BOARD ASSY, 525
	PRK20124B-02	OUTPUT BOARD ASSY, 522
STK1	PRD30072-54	STICKER
IC1	M5278L12	I.C.(M)
IC2	M5278L12	I.C.(M)
IC3	M5278L12	I.C.(M)
IC4	M5278L12	I.C.(M)
IC5	M5278L12	I.C.(M)
IC6	M5278L05	I.C.(M)
IC11	8VT15	I.C.(M)
IC12	SN16913P	I.C.(M)
IC13	TA7348P	I.C.(M)
IC14	8VT15	I.C.(M)
IC15	BA4558F	I.C.(M)
IC16	TC4066BF	I.C.(M)
IC17	UPC4082G2	I.C.(M)
IC18	UPC311C	I.C.(M)
IC19	TC4538BF	I.C.(M)
IC20	8VT15	I.C.(M)
IC21	TC74HC4538AF	I.C.(M)
IC22	LVA523SA	I.C.(M)
IC23	TA7347P	I.C.(M)
IC24	LM6361N	I.C.(M)
IC25	TA7347P	I.C.(M)
IC26	TA7347P	I.C.(M)
IC27	LM6361N	I.C.(M)
IC28	LM6361N	I.C.(M)
IC29	VC2520	I.C.(M)
IC31	AN607P	I.C.(M)
IC32	TC4011BF	I.C.(M)
IC33	M5278L12	I.C.(M)
IC34	M5278L12	I.C.(M)
Q1	2SC2412K(RS)	TRANSISTOR
Q2	2SA1037K(QR)	TRANSISTOR
Q3	2SA1037K(QR)	TRANSISTOR
Q4	2SC2412K(RS)	TRANSISTOR
Q5	DTA144EK	TRANSISTOR
Q6	2SC2412K(RS)	TRANSISTOR
Q7	2SC2412K(RS)	TRANSISTOR
Q9	2SC2412K(RS)	TRANSISTOR
Q10	2SA1037K(QR)	TRANSISTOR
Q12	2SD1383K(B)	TRANSISTOR
Q13	2SD1383K(B)	TRANSISTOR
Q14	2SA1037K(QR)	TRANSISTOR
Q15	2SA1037K(QR)	TRANSISTOR
Q16	2SA1037K(QR)	TRANSISTOR
Q17	DTC144EK	TRANSISTOR
Q18	DTA144EK	TRANSISTOR
Q19	2SK621	FE TRANSISTOR
Q20	2SA1037K(QR)	TRANSISTOR
Q21	2SC2412K(RS)	TRANSISTOR
Q22	DTA144EK	TRANSISTOR
Q23	DTC144EK	TRANSISTOR
Q24	2SA1037K(QR)	TRANSISTOR
Q25	2SC2412K(RS)	TRANSISTOR
Q26	DTC144EK	TRANSISTOR
Q27	DTC144EK	TRANSISTOR
Q28	DTC144EK	TRANSISTOR
Q29	DTC144EK	TRANSISTOR
Q30	DTC144EK	TRANSISTOR
Q31	DTC144EK	TRANSISTOR
Q32	2SC2412K(RS)	TRANSISTOR
Q33	2SA1037K(QR)	TRANSISTOR
Q34	2SA1037K(QR)	TRANSISTOR
Q35	DTA144EK	TRANSISTOR
Q36	2SK208	FE TRANSISTOR
Q37	2SC2412K(RS)	TRANSISTOR
Q38	2SC2412K(RS)	TRANSISTOR
Q39	2SC2412K(RS)	TRANSISTOR
Q40	2SA1037K(QR)	TRANSISTOR
Q41	2SC2412K(RS)	TRANSISTOR
Q42	2SC2412K(RS)	TRANSISTOR
Q43	2SC2412K(RS)	TRANSISTOR
Q44	2SD601A(Q)	TRANSISTOR
Q44	2SD601(Q)	TRANSISTOR
Q45	DTC144EK	TRANSISTOR
Q46	2SD601A(Q)	TRANSISTOR
Q46	2SD601(Q)	TRANSISTOR
Q47	2SA1037K(QR)	TRANSISTOR
Q48	2SC2412K(RS)	TRANSISTOR
Q49	2SD601A(QR)	TRANSISTOR
Q50	2SA1037K(QR)	TRANSISTOR
Q51	2SC2412K(RS)	TRANSISTOR
Q52	2SA1037K(QR)	TRANSISTOR
Q53	2SC2412K(RS)	TRANSISTOR
Q55	2SC2412K(RS)	TRANSISTOR
Q56	2SC2412K(RS)	TRANSISTOR
Q61	DTC144EK	TRANSISTOR
Q62	2SC2412K(RS)	TRANSISTOR
Q63	2SK621	FE TRANSISTOR
Q64	2SK621	FE TRANSISTOR
Q65	2SD601(R)	TRANSISTOR
Q65	2SD601A(R)	TRANSISTOR
Q66	2SD601A(R)	TRANSISTOR
Q66	2SD601(R)	TRANSISTOR
Q67	2SK621	FE TRANSISTOR
Q68	DTA144EK	TRANSISTOR, 525
D1	1SS133	DIODE
D2	MA27TB	DIODE

⚠REF No.	PART No.	PART NAME, DESCRIPTION	
D5	GL-3PR8	LE DIODE	
D6	1SS133	DIODE	
D7	1SS133	DIODE	
D8	RD7.5ES-T1B1	ZENER DIODE	
D9	1SS133	DIODE	
D10	1SS133	DIODE, 522	
D10	RD8.2ES-T1B2	ZENER DIODE, 525	
D11	1SS133	DIODE	
D12	1SS133	DIODE	
D13	1SS133	DIODE	
D14	1SS133	DIODE	
D15	1SS99	DIODE	
D16	1SS99	DIODE	
D21	1SS133	DIODE	
D22	1SS133	DIODE	
D23	1SS133	DIODE	
D24	1SS133	DIODE, 522	
D25	1SS133	DIODE, 525	
D26	1SS133	DIODE, 525	
R2	QVPB610-102	V RESISTOR	1kΩ
R4	QVZ3513-104	V RESISTOR, 522	100kΩ
R5	QVZ3513-104	V RESISTOR	100kΩ
R7	QVPB610-502	V RESISTOR	5kΩ
R8	QVZ3514-332	V RESISTOR	3.3kΩ
R101	QRD161J-223	RESISTOR	22kΩ ,1/6W
R102	QRD161J-333	RESISTOR	33kΩ ,1/6W
R103	QRD161J-471	RESISTOR	470Ω ,1/6W
R104	QRD161J-391	RESISTOR	390Ω ,1/6W
R105	QRD161J-391	RESISTOR	390Ω ,1/6W
R106	QRD161J-391	RESISTOR	390Ω ,1/6W
R107	QRD161J-332	RESISTOR	3.3kΩ ,1/6W
R108	QRD161J-332	RESISTOR	3.3kΩ ,1/6W
R109	QRD161J-562	RESISTOR	5.6kΩ ,1/6W
R110	QRD161J-103	RESISTOR	10kΩ ,1/6W
R111	QRD161J-222	RESISTOR	2.2kΩ ,1/6W
R112	QRD161J-102	RESISTOR	1kΩ ,1/6W
R113	QRD161J-222	RESISTOR	2.2kΩ ,1/6W
R114	QRD161J-123	RESISTOR	12kΩ ,1/6W
R115	QRD161J-222	RESISTOR	2.2kΩ ,1/6W
R116	QRD161J-472	RESISTOR	4.7kΩ ,1/6W
R117	QRD161J-222	RESISTOR	2.2kΩ ,1/6W
R118	QRD161J-222	RESISTOR	2.2kΩ ,1/6W
R119	QRD161J-681	RESISTOR	680Ω ,1/6W
R123	QRD161J-222	RESISTOR	2.2kΩ ,1/6W
R124	QRD161J-102	RESISTOR	1kΩ ,1/6W
R125	QRD161J-101	RESISTOR	100Ω ,1/6W
R126	QRD161J-561	RESISTOR	560Ω ,1/6W
R127	QRD161J-472	RESISTOR	4.7kΩ ,1/6W
R128	QRD161J-102	RESISTOR	1kΩ ,1/6W
R129	QRD161J-181	RESISTOR	180Ω ,1/6W
R130	QRD161J-821	RESISTOR	820Ω ,1/6W
R131	QRD161J-102	RESISTOR	1kΩ ,1/6W
R132	QRD161J-562	RESISTOR	5.6kΩ ,1/6W
R133	QRD161J-562	RESISTOR	5.6kΩ ,1/6W
R134	QRD161J-333	RESISTOR	33kΩ ,1/6W

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R135	QRD161J-103	RESISTOR	10kΩ ,1/6W
R136	QRD161J-333	RESISTOR	33kΩ ,1/6W
R137	QRD161J-103	RESISTOR	10kΩ ,1/6W
R138	QRD161J-222	RESISTOR	2.2kΩ ,1/6W
R139	QRD161J-222	RESISTOR	2.2kΩ ,1/6W
R140	QRD161J-562	RESISTOR	5.6kΩ ,1/6W
R141	QRD161J-101	RESISTOR	100Ω ,1/6W
R142	QRD161J-472	RESISTOR	4.7kΩ ,1/6W
R143	QRD161J-472	RESISTOR	4.7kΩ ,1/6W
R144	QRD161J-102	RESISTOR	1kΩ ,1/6W
R145	QRD161J-102	RESISTOR	1kΩ ,1/6W
R146	QRD161J-222	RESISTOR	2.2kΩ ,1/6W
R147	QRD161J-123	RESISTOR	12kΩ ,1/6W
R148	QRD161J-561	RESISTOR	560Ω ,1/6W
R149	QRD161J-682	RESISTOR	6.8kΩ ,1/6W
R150	QRD161J-562	RESISTOR	5.6kΩ ,1/6W
R151	QRD161J-102	RESISTOR	1kΩ ,1/6W
R152	QRD161J-102	RESISTOR	1kΩ ,1/6W
R153	QRD161J-222	RESISTOR	2.2kΩ ,1/6W
R154	QRD161J-102	RESISTOR	1kΩ ,1/6W
R155	QRD161J-0R0	RESISTOR	0Ω ,1/6W
R156	QRD161J-0R0	RESISTOR	0Ω ,1/6W
R157	QRD161J-562	RESISTOR	5.6kΩ ,1/6W
R158	QRD161J-103	RESISTOR	10kΩ ,1/6W
R159	QRD161J-474	RESISTOR	470kΩ ,1/6W
R160	QRD161J-222	RESISTOR	2.2kΩ ,1/6W
R161	QRD161J-103	RESISTOR	10kΩ ,1/6W
R162	QRD161J-472	RESISTOR	4.7kΩ ,1/6W
R163	QRD161J-681	RESISTOR	680Ω ,1/6W
R164	QRD161J-123	RESISTOR	12kΩ ,1/6W
R165	QRD161J-472	RESISTOR	4.7kΩ ,1/6W
R166	QRD161J-103	RESISTOR	10kΩ ,1/6W
R167	QRD161J-103	RESISTOR	10kΩ ,1/6W
R168	QRD161J-472	RESISTOR	4.7kΩ ,1/6W
R169	QRD161J-472	RESISTOR	4.7kΩ ,1/6W
R170	QRD161J-103	RESISTOR	10kΩ ,1/6W
R171	QRD161J-102	RESISTOR	1kΩ ,1/6W
R172	QRD161J-472	RESISTOR	4.7kΩ ,1/6W
R173	QRD161J-472	RESISTOR	4.7kΩ ,1/6W
R174	QRD161J-103	RESISTOR	10kΩ ,1/6W
R175	QRD161J-472	RESISTOR	4.7kΩ ,1/6W
R176	QRD161J-103	RESISTOR	10kΩ ,1/6W
R177	QRD161J-123	RESISTOR	12kΩ ,1/6W
R178	QRD161J-473	RESISTOR	47kΩ ,1/6W
R179	QRD161J-473	RESISTOR	47kΩ ,1/6W
R180	QRD161J-332	RESISTOR	3.3kΩ ,1/6W
R181	QRD161J-333	RESISTOR	33kΩ ,1/6W
R182	QRD161J-393	RESISTOR	39kΩ ,1/6W
R183	QRV141F-3600AY	CMF RESISTOR	360Ω ,1/4W
R184	QRD161J-391	RESISTOR	390Ω ,1/6W
R185	QRD161J-102	RESISTOR	1kΩ ,1/6W
R187	QRD161J-222	RESISTOR	2.2kΩ ,1/6W
R188	QRD161J-222	RESISTOR	2.2kΩ ,1/6W
R189	QRD161J-562	RESISTOR	5.6kΩ ,1/6W
R190	QRD161J-471	RESISTOR	470Ω ,1/6W
R191	QRD161J-105	RESISTOR	1MΩ ,1/6W
R192	QRD161J-821	RESISTOR	820Ω ,1/6W

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R193	QRD161J-222	RESISTOR	2.2kΩ ,1／6W
R194	QRD161J-122	RESISTOR	1.2kΩ ,1／6W
R195	QRD161J-222	RESISTOR	2.2kΩ ,1／6W
R196	QRD161J-181	RESISTOR	180Ω ,1／6W
R197	QRD161J-182	RESISTOR	1.8kΩ ,1／6W
R198	QRD161J-471	RESISTOR	470Ω ,1／6W
R199	QRD161J-391	RESISTOR	390Ω ,1／6W
R200	QRD161J-391	RESISTOR	390Ω ,1／6W
R201	QRD161J-563	RESISTOR	56kΩ ,1／6W
R202	QRD161J-103	RESISTOR	10kΩ ,1／6W
R203	QRD161J-122	RESISTOR	1.2kΩ ,1／6W
R204	QRD161J-271	RESISTOR	270Ω ,1／6W
R205	QRD161J-471	RESISTOR	470Ω ,1／6W
R206	QRD161J-391	RESISTOR	390Ω ,1／6W
R207	QRD161J-391	RESISTOR	390Ω ,1／6W
R210	QRD161J-471	RESISTOR	470Ω ,1／6W
R211	QRD161J-271	RESISTOR	270Ω ,1／6W
R212	QRD161J-222	RESISTOR	2.2kΩ ,1／6W
R213	QRD161J-103	RESISTOR, 522	10kΩ ,1／6W
R214	QRD161J-562	RESISTOR	5.6kΩ ,1／6W
R215	QRD161J-472	RESISTOR	4.7kΩ ,1／6W
R216	QRD161J-223	RESISTOR	22kΩ ,1／6W
R217	QRD161J-223	RESISTOR	22kΩ ,1／6W
R218	QRD161J-562	RESISTOR	5.6kΩ ,1／6W
R219	QRD161J-224	RESISTOR	220kΩ ,1／6W
R221	QRD161J-562	RESISTOR	5.6kΩ ,1／6W
R222	QRD161J-103	RESISTOR	10kΩ ,1／6W
R225	QRD161J-105	RESISTOR	1MΩ ,1／6W
R229	QRD161J-102	RESISTOR	1kΩ ,1／6W
R230	QRD161J-562	RESISTOR	5.6kΩ ,1／6W
R231	QRV141F-1101AY	CMF RESISTOR	1.10kΩ ,1／4W
R232	QRV141F-1001AY	CMF RESISTOR	1kΩ ,1／4W
R233	QRD161J-332	RESISTOR	3.3kΩ ,1／6W
R234	QRD161J-181	RESISTOR	180Ω ,1／6W
R235	QRD161J-181	RESISTOR	180Ω ,1／6W
R236	QRD161J-391	RESISTOR	390Ω ,1／6W
R237	QRD161J-471	RESISTOR	470Ω ,1／6W
R238	QRD161J-103	RESISTOR	10kΩ ,1／6W
R240	QRD161J-102	RESISTOR	1kΩ ,1／6W
R241	QRD161J-562	RESISTOR	5.6kΩ ,1／6W
R242	QRD161J-102	RESISTOR	1kΩ ,1／6W
R243	QRD161J-562	RESISTOR	5.6kΩ ,1／6W
R244	QRV141F-9100AY	CMF RESISTOR, 525	910Ω ,1／4W
R244	QRV141F-9100A	CMF RESISTOR, 522	910Ω ,1／4W
R245	QRV141F-1001AY	CMF RESISTOR	1kΩ ,1／4W
R246	QRD161J-102	RESISTOR	1kΩ ,1／6W
R247	QRD161J-181	RESISTOR	180Ω ,1／6W
R248	QRD161J-181	RESISTOR	180Ω ,1／6W
R249	QRD161J-391	RESISTOR	390Ω ,1／6W
R250	QRD161J-471	RESISTOR	470Ω ,1／6W
R251	QRD161J-223	RESISTOR	22kΩ ,1／6W
R253	QRD161J-102	RESISTOR	1kΩ ,1／6W
R256	QRV141F-3301AY	CMF RESISTOR	3.30kΩ ,1／4W
R257	QRV141F-1001AY	CMF RESISTOR	1kΩ ,1／4W
R258	QRD161J-181	RESISTOR	180Ω ,1／6W
R259	QRD161J-181	RESISTOR	180Ω ,1／6W
R260	QRD161J-332	RESISTOR	3.3kΩ ,1／6W

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R261	QRD161J-221	RESISTOR	220Ω ,1／6W
R262	QRD161J-221	RESISTOR	220Ω ,1／6W
R263	QRD161J-103	RESISTOR	10kΩ ,1／6W
R264	QRD161J-750	RESISTOR	75Ω ,1／6W
R265	QRD161J-750	RESISTOR	75Ω ,1／6W
R266	QRD161J-102	RESISTOR	1kΩ ,1／6W
R269	QRD161J-103	RESISTOR	10kΩ ,1／6W
R270	QRD161J-392	RESISTOR	3.9kΩ ,1／6W
R271	QRD161J-182	RESISTOR	1.8kΩ ,1／6W
R272	QRD161J-0R0	RESISTOR	0Ω ,1／6W
R273	QRD161J-122	RESISTOR	1.2kΩ ,1／6W
R274	QRD161J-183	RESISTOR	18kΩ ,1／6W
R275	QRD161J-123	RESISTOR	12kΩ ,1／6W
R276	QRD161J-562	RESISTOR	5.6kΩ ,1／6W
R277	QRD161J-562	RESISTOR	5.6kΩ ,1／6W
R278	QRD161J-393	RESISTOR	39kΩ ,1／6W
R281	QRD161J-222	RESISTOR	2.2kΩ ,1／6W
R282	QRD161J-392	RESISTOR	3.9kΩ ,1／6W
R283	QRD161J-681	RESISTOR	680Ω ,1／6W
R284	QRD161J-151	RESISTOR	150Ω ,1／6W
R285	QRD161J-0R0	RESISTOR	0Ω ,1／6W
R286	QRD161J-333	RESISTOR	33kΩ ,1／6W
R287	QRD161J-681	RESISTOR	680Ω ,1／6W
R289	QRD161J-123	RESISTOR	12kΩ ,1／6W
R290	QRD161J-183	RESISTOR	18kΩ ,1／6W
R291	QRD161J-151	RESISTOR	150Ω ,1／6W
R292	QRD161J-123	RESISTOR	12kΩ ,1／6W
R293	QRD161J-223	RESISTOR	22kΩ ,1／6W
R295	QRD161J-151	RESISTOR	150Ω ,1／6W
R296	QRD161J-103	RESISTOR	10kΩ ,1／6W
R297	QRD161J-103	RESISTOR	10kΩ ,1／6W
R298	QRD161J-102	RESISTOR	1kΩ ,1／6W
R301	QRD161J-182	RESISTOR	1.8kΩ ,1／6W
R302	QRD161J-102	RESISTOR	1kΩ ,1／6W
R303	QRD161J-123	RESISTOR	12kΩ ,1／6W
R304	QRD161J-105	RESISTOR	1MΩ ,1／6W
R305	QRD161J-102	RESISTOR	1kΩ ,1／6W
R306	QRD161J-271	RESISTOR	270Ω ,1／6W
R307	QRD161J-683	RESISTOR	68kΩ ,1／6W
R308	QRD161J-103	RESISTOR	10kΩ ,1／6W
R311	QRD161J-103	RESISTOR	10kΩ ,1／6W
R312	QRD161J-103	RESISTOR	10kΩ ,1／6W
R321	QRD161J-183	RESISTOR	18kΩ ,1／6W
R322	QRD161J-332	RESISTOR	3.3kΩ ,1／6W
R323	QRD161J-103	RESISTOR	10kΩ ,1／6W
R324	QRD161J-103	RESISTOR	10kΩ ,1／6W
R325	QRD161J-181	RESISTOR	180Ω ,1／6W
R326	QRD161J-333	RESISTOR	33kΩ ,1／6W
R327	QRD161J-153	RESISTOR	15kΩ ,1／6W
R328	QRV141F-3900AY	CMF RESISTOR	390Ω ,1／4W
R329	QRV141F-3000AY	CMF RESISTOR	300Ω ,1／4W
R330	QRD161J-472	RESISTOR	4.7kΩ ,1／6W
R331	QRD161J-103	RESISTOR	10kΩ ,1／6W
R332	QRD161J-0R0	RESISTOR	0Ω ,1／6W
R333	QRSA08J-392YN	RESISTOR	3.9kΩ ,1／10W

△REF No.	PART No.	PART NAME, DESCRIPTION	
R334	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R336	QRD161J-224	RESISTOR	220kΩ,1/6W
R337	QRD161J-102	RESISTOR	1kΩ,1/6W
R338	QRD161J-102	RESISTOR	1kΩ,1/6W
R339	QRV141F-2201AY	CMF RESISTOR	2.20kΩ,1/4W
R340	QRV141F-2201AY	CMF RESISTOR	2.20kΩ,1/4W
R347	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R348	QRD161J-271	RESISTOR	270Ω,1/6W
R350	QRD161J-221	RESISTOR	220Ω,1/6W
R351	QRD163J-273	RESISTOR, 525	27kΩ,1/6W
R352	QRSA08J-103YN	RESISTOR, 525	10kΩ,1/10W
C1	QETC1AM-107	E CAPACITOR	100μF,10V
C2	QCFA1HZ-223	CAPACITOR	0.022μF,50V
C3	QCFA1HZ-223	CAPACITOR	0.022μF,50V
C4	QCFA1HZ-223	CAPACITOR	0.022μF,50V
C5	QCFA1EZ-333	CAPACITOR	0.033μF,25V
C6	QETC1CM-107	E CAPACITOR	100μF,16V
C7	QCFA1EZ-333	CAPACITOR	0.033μF,25V
C9	QCS31HJ-220	CAPACITOR	22pF,50V
C10	QCS31HJ-181	CAPACITOR	180pF,50V
C11	QCS31HJ-220	CAPACITOR	22pF,50V
C12	QCFA1HZ-223	CAPACITOR	0.022μF,50V
C13	QCS31HJ-221	CAPACITOR	220pF,50V
C14	QCS31HJ-681	CAPACITOR	680pF,50V
C15	QCS31HJ-221	CAPACITOR	220pF,50V
C16	QCFA1HZ-223	CAPACITOR	0.022μF,50V
C17	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C18	QCSA1HJ-101	CAPACITOR	100pF,50V
C19	QCFA1HZ-223	CAPACITOR	0.022μF,50V
C20	QCFA1EZ-333	CAPACITOR	0.033μF,25V
C21	QENC1CM-106	NP E CAPACITOR	10μF,16V
C22	QCS31HJ-221	CAPACITOR	220pF,50V
C23	QCS31HJ-221	CAPACITOR	220pF,50V
C24	QCS31HJ-271	CAPACITOR	270pF,50V
C25	QCS31HJ-151	CAPACITOR	150pF,50V
C26	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C27	QETC1CM-106	E CAPACITOR	10μF,16V
C28	QETC1CM-337	E CAPACITOR	330μF,16V
C29	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C30	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C31	QCYA1HJ-102	CAPACITOR	0.001μF,50V
C32	QCYA1HJ-102	CAPACITOR	0.001μF,50V
C33	QETC1CM-226	E CAPACITOR	22μF,16V
C34	QETC1HM-105	E CAPACITOR	1μF,50V
C35	QETC1AM-226	E CAPACITOR	22μF,10V
C36	QETC1AM-226	E CAPACITOR	22μF,10V
C37	QETC1CM-476	E CAPACITOR	47μF,16V
C38	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C39	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C40	QETC1AM-107	E CAPACITOR	100μF,10V
C41	QCFA1EZ-333	CAPACITOR	0.033μF,25V
C42	QCFA1EZ-333	CAPACITOR	0.033μF,25V
C43	QCS31HJ-151	CAPACITOR	150pF,50V
C44	QCFA1EZ-333	CAPACITOR	0.033μF,25V
C45	QETC1AM-107	E CAPACITOR	100μF,10V

#△REF No.	PART No.	PART NAME, DESCRIPTION	
C47	QETC1AM-107	E CAPACITOR	100μF,10V
C50	QETC1CM-476	E CAPACITOR	47μF,16V
C51	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C52	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C54	QCYA1EK-103	CAPACITOR	0.01μF,25V
C55	QCYA1EK-103	CAPACITOR	0.01μF,25V
C56	QCYA1EK-103	CAPACITOR	0.01μF,25V
C57	QCYA1EK-103	CAPACITOR	0.01μF,25V
C58	QETC1HM-225	E CAPACITOR	2.2μF,50V
C60	QETC1HM-225	E CAPACITOR	2.2μF,50V
C62	QETC1CM-106	E CAPACITOR	10μF,16V
C63	QETC1CM-106	E CAPACITOR	10μF,16V
C64	QETC1AM-477	E CAPACITOR	470μF,10V
C65	QETC0JM-107	E CAPACITOR	100μF,6.3V
C66	QETC1CM-337	E CAPACITOR	330μF,16V
C67	QETC1CM-336	E CAPACITOR	33μF,16V
C68	QETC1CM-337	E CAPACITOR	330μF,16V
C69	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C70	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C71	QCFA1HZ-223	CAPACITOR	0.022μF,50V
C72	QCSA1HJ-330	CAPACITOR	33pF,50V
C73	QCFA1HZ-223	CAPACITOR	0.022μF,50V
C74	QCFA1HZ-223	CAPACITOR	0.022μF,50V
C75	QETC1AM-226	E CAPACITOR, 522	22μF,10V
C76	QETC0JM-226	E CAPACITOR	22μF,6.3V
C77	QETC1AM-226	E CAPACITOR	22μF,10V
C78	QETC1CM-106	E CAPACITOR	10μF,16V
C80	QETC1AM-477	E CAPACITOR	470μF,10V
C81	QETC0JM-107	E CAPACITOR	100μF,6.3V
C82	QETC1CM-337	E CAPACITOR	330μF,16V
C83	QEE81AM-156	TANTAL CAPACITOR	15μF,10V
C84	QETC1CM-476	E CAPACITOR	47μF,16V
C85	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C86	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C87	QCSA1HJ-151	CAPACITOR	150pF,50V
C88	QCFA1EZ-333	CAPACITOR	0.033μF,25V
C89	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C90	QCSA1HJ-100	CAPACITOR	10pF,50V
C91	QCSA1HJ-150	CAPACITOR	15pF,50V
C92	QCSA1HJ-151	CAPACITOR	150pF,50V
C93	QCFA1EZ-333	CAPACITOR	0.033μF,25V
C94	QETC0JM-107	E CAPACITOR	100μF,6.3V
C95	QCSA1HJ-331	CAPACITOR	330pF,50V
C96	QETC1HM-104	E CAPACITOR	0.1μF,50V
C97	QCS31HJ-221	CAPACITOR	220pF,50V
C98	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C99	QCSA1HJ-7R0	CAPACITOR	7pF,50V
C100	QETC1CM-106	E CAPACITOR	10μF,16V
C101	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C102	QCSA1HJ-7R0	CAPACITOR	7pF,50V
C103	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C104	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C105	QCSA1HJ-7R0	CAPACITOR	7pF,50V
C106	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C107	QETC0JM-476	E CAPACITOR	47μF,6.3V
C108	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C109	QCFA1EZ-104	CAPACITOR	0.1μF,25V

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
C110	QETC1CM-106	E CAPACITOR	10μF,16V
C121	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C127	QCYA1EK-103	CAPACITOR	0.01μF,25V
C128	QCFA1HZ-223	CAPACITOR	0.022μF,50V
C129	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C130	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C131	QCTA1CH-150	CAPACITOR	15pF,16V
C132	QCTA1CH-150	CAPACITOR	15pF,16V
C133	QCTA1CH-150	CAPACITOR	15pF,16V
C134	QCTA1CH-6R0	CAPACITOR	6pF,16V
C135	QCTA1CH-3R0	CAPACITOR	3pF,16V
C138	QCYA1EK-103	CAPACITOR	0.01μF,25V
C139	QETC1CM-107	E CAPACITOR	100μF,16V
C140	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C141	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C142	QETC1CM-476	E CAPACITOR	47μF,16V
C143	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C144	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C145	QETC1CM-476	E CAPACITOR	47μF,16V
C146	QCYA1EK-103	CAPACITOR	0.01μF,25V
C147	QCYA1HJ-223	CAPACITOR, 525	0.022μF,50V
C147	QCYA1HJ-103	CAPACITOR, 522	0.01μF,50V
C148	QCYA1EK-103	CAPACITOR	0.01μF,25V
C149	QCYA1EK-103	CAPACITOR	0.01μF,25V
C150	QCYA1EK-103	CAPACITOR	0.01μF,25V
C151	QCYA1EK-103	CAPACITOR	0.01μF,25V
C152	QCYA1EK-103	CAPACITOR	0.01μF,25V
C153	QCYA1EK-103	CAPACITOR	0.01μF,25V
C154	QCTA1CH-6R0	CAPACITOR	6pF,16V
C155	QCTA1CH-6R0	CAPACITOR	6pF,16V
L1	PU48530-820J	COIL	82μH
L2	PU48530-100J	COIL	10μH
L3	PU48530-820J	COIL	82μH
L4	PU48530-331J	COIL	330μH
L5	PU48530-101J	COIL	100μH
L6	PU48530-331J	COIL	330μH
L7	PU48530-471J	COIL	470μH
L8	PU48530-221J	COIL	220μH
L9	PU48530-101J	COIL	100μH
L10	PU48530-680J	COIL	68μH
L11	PU48530-680J	COIL	68μH
L13	PU58201-8R2J	COIL	8.2μH
L14	QRD161J-0R0	RESISTOR	0Ω,1/6W
L15	PU58201-8R2J	COIL	8.2μH
L16	PU48530-4R7J	COIL	4.7μH
EQ1	PGZ01587	EQUALIZER	
EQ2	PGZ01588	EQUALIZER	
EQ3	PGZ01588	EQUALIZER	
DL1	PGZ01551	DELAY LINE	
DL3	PGZ01552	DELAY LINE	
DL4	PGZ00131-015	DELAY LINE	
DL5	PGZ00131-015	DELAY LINE	

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
SW1	PU54440	SWITCH	
EJ1	PGZ00582	EJECTOR, ×2	
RV1	PU53276	PLASTIC RIVET, ×4	
SLD1	PRD30781-02-03	SHIELD PLATE	
TP1	PU54983	TEST PIN, ×13(522) ×14(525)	
CN1	PGZ00421-64	MALE CONNECTOR	

- ENHANCE SUB BOARD ASSY -

PWBA	PRK20205A	ENHANCE SUB BOARD ASSY	
IC501	8VT15	I.C.(M)	
R220	QRSA08J-224YN	RESISTOR	220kΩ,1/10W
R294	QRSA08J-681YN	RESISTOR	680Ω,1/10W
R501	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
R503	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
R505	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R506	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R507	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R508	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R509	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
R510	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R511	QRSA08J-391YN	RESISTOR	390Ω,1/10W
R512	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
C501	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
C502	QCYA1HK-103	CAPACITOR	0.01μF,50V
C503	QCYA1HK-103	CAPACITOR	0.01μF,50V
C504	QCYA1EK-104	CAPACITOR	0.1μF,25V
CN1	PGZ00817-002	CONNECTOR	
CN2	PGZ00817-002	CONNECTOR	
CN3	PGZ00817-002	CONNECTOR	

FMA PRE/REC BOARD ASSEMBLY <20>

⚠REF No.	PART No.	PART NAME, DESCRIPTION	
PWBA	PRK30064D	FMA PRE AMP BOARD ASSY	
IC1	TA7742P	I.C.(M)	
IC2	AN3920S	I.C.(M)	
Q1	2SC2412K(S)	TRANSISTOR	
Q2	2SC2412K(S)	TRANSISTOR	
Q4	DTC124EK	TRANSISTOR	
Q5	2SC2412K(S)	TRANSISTOR	
Q8	2SC2412K(S)	TRANSISTOR	
Q9	2SC2412K(S)	TRANSISTOR	
Q10	2SC2412K(S)	TRANSISTOR	
Q11	2SC2412K(S)	TRANSISTOR	
R1	QRSA08J-100YN	RESISTOR	10Ω,1/10W
R2	QRSA08J-100YN	RESISTOR	10Ω,1/10W
R3	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R4	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R5	QRSA08J-151YN	RESISTOR	150Ω,1/10W
R6	QRSA08J-151YN	RESISTOR	150Ω,1/10W
R8	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
R9	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
R11	QVZ3521-473	RESISTOR	47kΩ
R12	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R13	QRSA08J-105YN	RESISTOR	1MΩ,1/10W
R14	QRSA08J-124YN	RESISTOR	120kΩ,1/10W
R15	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
R16	QRSA08J-273YN	RESISTOR	27kΩ,1/10W
R17	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
R18	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R19	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
R20	QRSA08J-123YN	RESISTOR	12kΩ,1/10W
R21	QRSA08J-561YN	RESISTOR	560Ω,1/10W
R22	QRSA08J-123YN	RESISTOR	12kΩ,1/10W
R27	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R28	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R29	QRSA08J-682YN	RESISTOR	6.8kΩ,1/10W
R30	QRSA08J-682YN	RESISTOR	6.8kΩ,1/10W
R31	QRSA08J-273YN	RESISTOR	27kΩ,1/10W
R32	QRSA08J-273YN	RESISTOR	27kΩ,1/10W
R33	QRSA08J-273YN	RESISTOR	27kΩ,1/10W
R34	QRSA08J-273YN	RESISTOR	27kΩ,1/10W
R35	QRSA08J-561YN	RESISTOR	560Ω,1/10W
R36	QRSA08J-561YN	RESISTOR	560Ω,1/10W
R37	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R38	QRSA08J-561YN	RESISTOR	560Ω,1/10W
R39	QRSA08J-750YN	RESISTOR	75Ω,1/10W
R40	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R41	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
R42	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
R44	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R46	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
C1	QCTA1CH-221	CAPACITOR	220pF,16V
C2	QCTA1CH-221	CAPACITOR	220pF,16V
C3	QCYA1HK-103	CAPACITOR	0.01μF,50V
C4	QCYA1HK-103	CAPACITOR	0.01μF,50V
C5	QEE81CM-476	TANTAL CAPACITOR	47μF,16V
C6	QCYA1HK-103	CAPACITOR	0.01μF,50V
C7	QEE81EM-105	TANTAL CAPACITOR	1μF,25V
C8	QEE81EM-105	TANTAL CAPACITOR	1μF,25V
C9	QCYA1HK-103	CAPACITOR	0.01μF,50V
C10	QEK61HM-104	E CAPACITOR	0.1μF,50V
C11	QCYA1HK-103	CAPACITOR	0.01μF,50V
C12	QEK61HM-225	E CAPACITOR	2.2μF,50V
C13	QCYA1HK-103	CAPACITOR	0.01μF,50V
C14	QCYA1HK-103	CAPACITOR	0.01μF,50V
C15	QCTA1CH-5R0	CAPACITOR	5pF,16V
C16	QCTA1CH-221	CAPACITOR	220pF,16V
C17	QCTA1CH-331	CAPACITOR	330pF,16V
C18	QFN31HJ-682	M CAPACITOR	0.0068μF,50V
C19	QEK61AM-476	E CAPACITOR	47μF,10V
C20	QCYA1HK-103	CAPACITOR	0.01μF,50V
C21	QCYA1HK-103	CAPACITOR	0.01μF,50V
C22	QCYA1HK-103	CAPACITOR	0.01μF,50V
C23	QCYA1HK-103	CAPACITOR	0.01μF,50V
C24	QCYA1HK-103	CAPACITOR	0.01μF,50V
C25	QCYA1HK-103	CAPACITOR	0.01μF,50V
C26	QCYA1HK-103	CAPACITOR	0.01μF,50V
C27	QCYA1HK-103	CAPACITOR	0.01μF,50V
C28	QCYA1HK-103	CAPACITOR	0.01μF,50V
C29	QEK61AM-476	E CAPACITOR	47μF,10V
C30	QCYA1HK-103	CAPACITOR	0.01μF,50V
C31	QCYA1HK-103	CAPACITOR	0.01μF,50V
C32	QCTA1CH-121	CAPACITOR	120pF,16V
C33	QCTA1CH-121	CAPACITOR	120pF,16V
L1	PU53607-152	COIL	1.5mH
L2	PU48530-101J	COIL	100μH
L3	PU48530-101J	COIL	100μH
BPF1	PELN0374	BAND PASS FILTER	
BPF2	PU60610	BAND PASS FILTER(1.4MHZ)	
BPF3	PU60611	BAND PASS FILTER(1.8MHZ)	
T1	PU56175	S.TRANS	
T2	PU56175	S.TRANS	
TP1	PU54983	TEST PIN, ×3	
CN1	PU58844-6	CONNECTOR	
CN2	PU58844-5	CONNECTOR	
CN3	PU58844-10	CONNECTOR	
CN4	PU58844-3	CONNECTOR	

AUDIO 1 BOARD ASSEMBLY <21>

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
PWBA	PRK10060D	AUDIO 1 BOARD ASSY, 522	
	PRK10060F	AUDIO 1 BOARD ,ASSY, 525	
IC1	AN6394	I.C.(M)	
IC2	AN6394	I.C.(M)	
IC3	TA7629P	I.C.(M)	
IC4	TA7629P	I.C.(M)	
IC5	M50253P	I.C.(M)	
IC6	M50253P	I.C.(M)	
IC7	DT5A124E	TRANSISTOR	
IC8	DT5A124E	I.C.(M)	
IC9	TA78L009AP	I.C.(M)	
IC10	TA78L009AP	I.C.(M)	
IC11	M5220P	I.C.(M)	
IC12	M5278D12	I.C.(M)	
IC13	M5279L12	I.C.(M), 522	
IC13	QRD163J-0R0	RESISTOR, 525	0Ω,1/6W
IC14	M5278D12	I.C.(M)	
IC602	TC4066BF	I.C.(M)	
IC603	M5218AP	I.C.(M)	
IC605	M50255P	I.C.(M)	
IC607	M5218AP	I.C.(M)	
IC608	TC4053BF	I.C.(M)	
IC609	TC4053BF	I.C.(M)	
IC610	UPC393C	I.C.(M)	
IC611	M5218AP	I.C.(M)	
Q7	2SC2412K(RS)	TRANSISTOR	
Q8	2SC2412K(RS)	TRANSISTOR	
Q9	2SC2412K(RS)	TRANSISTOR	
Q10	2SC2412K(RS)	TRANSISTOR	
Q11	2SC2412K(RS)	TRANSISTOR	
Q12	2SC2412K(RS)	TRANSISTOR	
Q17	DTC124EK	TRANSISTOR	
Q18	DTC124EK	TRANSISTOR	
Q19	DTC124EK	TRANSISTOR	
Q20	DTC124EK	TRANSISTOR	
Q34	2SD973AR	TRANSISTOR	
Q35	2SB793AR	TRANSISTOR	
Q36	2SB1030R,S	TRANSISTOR	
Q37	2SK146(BV)	FE TRANSISTOR	
Q38	2SK146(BV)	FE TRANSISTOR	
Q39	DTC323TK	TRANSISTOR	
Q40	DTC323TK	TRANSISTOR	
Q41	DTA124EK	TRANSISTOR	
Q42	DTA124EK	TRANSISTOR	
Q603	DTC323TK	TRANSISTOR	
Q604	DTA124EK	TRANSISTOR	
Q608	DTC323TK	TRANSISTOR	
Q609	DTA124EK	TRANSISTOR	
Q610	2SC2412K(RS)	TRANSISTOR	
Q611	2SC2412K(RS)	TRANSISTOR	
Q612	2SC2412K(RS)	TRANSISTOR	
Q613	DTC124EK	TRANSISTOR	
Q614	2SB1030R,S	TRANSISTOR	
Q615	DTA124EK	TRANSISTOR	
D1	1SS133	DIODE	
D2	1SS133	DIODE	
D3	1SS133	DIODE	
D4	1SS133	DIODE	
D5	1SS133	DIODE	
DA601	DA204K	DIODE	
DA602	DA204K	DIODE	
DA603	DA204K	DIODE	
R9	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R10	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R13	QRSA08J-183YN	RESISTOR	18kΩ,1/10W
R14	QRSA08J-183YN	RESISTOR	18kΩ,1/10W
R23	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
R24	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
R25	QVZ3513-103	V RESISTOR	10kΩ
R26	QVZ3513-103	V RESISTOR	10kΩ
R27	QRSA08J-471YN	RESISTOR	470Ω,1/10W
R28	QRSA08J-471YN	RESISTOR	470Ω,1/10W
R29	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R30	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R31	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R32	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R41	QRSA08J-681YN	RESISTOR	680Ω,1/10W
R42	QRSA08J-681YN	RESISTOR	680Ω,1/10W
R43	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
R44	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
R45	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R46	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R47	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R48	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R55	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R56	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R63	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R64	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R67	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
R68	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
R71	QRSA08F-332YN	RESISTOR	3.3kΩ,1/10W
R72	QRSA08F-332YN	RESISTOR	3.3kΩ,1/10W
R73	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
R74	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
R75	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
R76	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
R77	QRSA08J-181YN	RESISTOR	180Ω,1/10W

⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R78	QRSA08J-181YN	RESISTOR	180Ω ,1／10W
R83	QRSA08J-154YN	RESISTOR	150kΩ ,1／10W
R84	QRSA08J-154YN	RESISTOR	150kΩ ,1／10W
R85	QRSA08J-274YN	RESISTOR	270kΩ ,1／10W
R86	QRSA08J-274YN	RESISTOR	270kΩ ,1／10W
R87	QRSA08J-273YN	RESISTOR	27kΩ ,1／10W
R88	QRSA08J-273YN	RESISTOR	27kΩ ,1／10W
R89	QRSA08J-103YN	RESISTOR	10kΩ ,1／10W
R90	QRSA08J-103YN	RESISTOR	10kΩ ,1／10W
R99	QRD161J-152	RESISTOR	1.5kΩ ,1／6W
R100	QRD161J-152	RESISTOR	1.5kΩ ,1／6W
R101	NRVA62D-222N	RESISTOR	2.2kΩ ,1／16W
R102	NRVA62D-222N	RESISTOR	2.2kΩ ,1／16W
R103	NRVA62D-222N	RESISTOR	2.2kΩ ,1／16W
R104	NRVA62D-222N	RESISTOR	2.2kΩ ,1／16W
R105	NRVA62D-222N	RESISTOR, 522	2.2kΩ ,1／16W
R105	NRVA62D-272N	RESISTOR, 525	2.7kΩ ,1／16W
R106	NRVA62D-272N	RESISTOR, 525	2.7kΩ ,1／16W
R106	NRVA62D-222N	RESISTOR, 522	2.2kΩ ,1／16W
R107	QRSA08J-223YN	RESISTOR	22kΩ ,1／10W
R108	QRSA08J-223YN	RESISTOR	22kΩ ,1／10W
R109	QRSA08J-820YN	RESISTOR	82Ω ,1／10W
R110	QRSA08J-820YN	RESISTOR	82Ω ,1／10W
R111	QRSA08J-103YN	RESISTOR	10kΩ ,1／10W
R112	QRSA08J-103YN	RESISTOR	10kΩ ,1／10W
R113	QRSA08J-105YN	RESISTOR	1MΩ ,1／10W
R114	QRSA08J-105YN	RESISTOR	1MΩ ,1／10W
R115	QRSA08J-105YN	RESISTOR	1MΩ ,1／10W
R116	QRSA08J-105YN	RESISTOR	1MΩ ,1／10W
R117	QRSA08J-124YN	RESISTOR	120kΩ ,1／10W
R118	QRSA08J-124YN	RESISTOR	120kΩ ,1／10W
R119	QRSA08J-432YN	RESISTOR	4.3kΩ ,1／10W
R120	QRSA08J-432YN	RESISTOR	4.3kΩ ,1／10W
R121	QRSA08J-101YN	RESISTOR	100Ω ,1／10W
R122	QRSA08J-101YN	RESISTOR	100Ω ,1／10W
R123	QRSA08J-470YN	RESISTOR	47Ω ,1／10W
R124	QRSA08J-470YN	RESISTOR	47Ω ,1／10W
R125	QVZ3513-102	V RESISTOR	1kΩ
R126	QVZ3513-102	V RESISTOR	1kΩ
R127	QRSA08J-103YN	RESISTOR	10kΩ ,1／10W
R128	QRSA08J-103YN	RESISTOR	10kΩ ,1／10W
R129	QRSA08J-102YN	RESISTOR	1kΩ ,1／10W
R130	QRSA08J-102YN	RESISTOR	1kΩ ,1／10W
R131	QRSA08J-102YN	RESISTOR	1kΩ ,1／10W
R132	QRSA08J-102YN	RESISTOR	1kΩ ,1／10W
R133	QRSA08J-103YN	RESISTOR	10kΩ ,1／10W
R134	QRSA08J-103YN	RESISTOR	10kΩ ,1／10W
R601	QRSA08J-184YN	RESISTOR	180kΩ ,1／10W
R602	QRSA08J-563YN	RESISTOR	56kΩ ,1／10W
R603	QRSA08J-333YN	RESISTOR	33kΩ ,1／10W
R604	QRSA08J-681YN	RESISTOR	680Ω ,1／10W
R605	QRSA08J-101YN	RESISTOR	100Ω ,1／10W
R606	QRSA08J-102YN	RESISTOR	1kΩ ,1／10W
R607	QRSA08J-472YN	RESISTOR	4.7kΩ ,1／10W
R608	QRSA08J-472YN	RESISTOR	4.7kΩ ,1／10W
R609	QRSA08J-823YN	RESISTOR	82kΩ ,1／10W

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R610	QRSA08J-102YN	RESISTOR	1kΩ ,1／10W
R611	QRSA08J-683YN	RESISTOR	68kΩ ,1／10W
R612	QRSA08J-472YN	RESISTOR	4.7kΩ ,1／10W
R613	QRSA08J-472YN	RESISTOR	4.7kΩ ,1／10W
R614	QRSA08J-823YN	RESISTOR	82kΩ ,1／10W
R615	QRSA08J-823YN	RESISTOR	82kΩ ,1／10W
R616	QRSA08J-821YN	RESISTOR	820Ω ,1／10W
R629	QRSA08J-103YN	RESISTOR	10kΩ ,1／10W
R630	QRSA08J-473YN	RESISTOR	47kΩ ,1／10W
R631	QRSA08J-473YN	RESISTOR	47kΩ ,1／10W
R632	QRSA08J-103YN	RESISTOR	10kΩ ,1／10W
R633	QRSA08J-473YN	RESISTOR	47kΩ ,1／10W
R634	QRSA08J-473YN	RESISTOR	47kΩ ,1／10W
R635	QRSA08J-472YN	RESISTOR	4.7kΩ ,1／10W
R636	QRSA08J-472YN	RESISTOR	4.7kΩ ,1／10W
R643	QRSA08J-153YN	RESISTOR	15kΩ ,1／10W
R644	QRSA08J-153YN	RESISTOR	15kΩ ,1／10W
R645	QRSA08J-225YN	RESISTOR	2.2MΩ ,1／10W
R646	QRSA08J-225YN	RESISTOR	2.2MΩ ,1／10W
R647	QRSA08J-474YN	RESISTOR	470kΩ ,1／10W
R648	QRSA08J-103YN	RESISTOR	10kΩ ,1／10W
R649	QRSA08J-392YN	RESISTOR	3.9kΩ ,1／10W
R650	QRSA08J-153YN	RESISTOR	15kΩ ,1／10W
R651	QRSA08J-472YN	RESISTOR	4.7kΩ ,1／10W
R652	QRSA08J-472YN	RESISTOR	4.7kΩ ,1／10W
R653	QRSA08J-104YN	RESISTOR	100kΩ ,1／10W
R654	QRSA08J-223YN	RESISTOR	22kΩ ,1／10W
R655	QRSA08J-223YN	RESISTOR	22kΩ ,1／10W
R656	QRSA08J-474YN	RESISTOR	470kΩ ,1／10W
R657	QRSA08J-103YN	RESISTOR	10kΩ ,1／10W
R658	QRSA08J-392YN	RESISTOR	3.9kΩ ,1／10W
R659	QRSA08J-222YN	RESISTOR	2.2kΩ ,1／10W
R660	QRSA08J-105YN	RESISTOR	1MΩ ,1／10W
R661	QRSA08J-333YN	RESISTOR	33kΩ ,1／10W
R662	QRSA08J-333YN	RESISTOR	33kΩ ,1／10W
R663	QRSA08J-333YN	RESISTOR	33kΩ ,1／10W
R664	QRSA08J-472YN	RESISTOR	4.7kΩ ,1／10W
R665	QRSA08J-472YN	RESISTOR	4.7kΩ ,1／10W
R666	QRSA08J-473YN	RESISTOR	47kΩ ,1／10W
R668	QRSA08J-0R0Y	RESISTOR	0Ω ,1／10W
R671	QRSA08J-331YN	RESISTOR	330Ω ,1／10W
R672	QRSA08J-563YN	RESISTOR	56kΩ ,1／10W
R673	QRSA08J-182YN	RESISTOR	1.8kΩ ,1／10W
R674	QRSA08J-104YN	RESISTOR	100kΩ ,1／10W
R675	QRSA08J-104YN	RESISTOR	100kΩ ,1／10W
R676	QRSA08J-223YN	RESISTOR	22kΩ ,1／10W
R677	QRSA08J-223YN	RESISTOR	22kΩ ,1／10W
R682	QRD161J-750	RESISTOR	75Ω ,1／6W
R683	QRD161J-750	RESISTOR	75Ω ,1／6W
R684	QRSA08J-103YN	RESISTOR	10kΩ ,1／10W
R685	QRSA08J-103YN	RESISTOR	10kΩ ,1／10W
R686	QRSA08J-104YN	RESISTOR	100kΩ ,1／10W
R687	QRSA08J-104YN	RESISTOR	100kΩ ,1／10W
R688	QRSA08J-103YN	RESISTOR	10kΩ ,1／10W
R689	QRSA08J-103YN	RESISTOR	10kΩ ,1／10W

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#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R690	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R691	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R692	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R693	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R694	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R695	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R696	QRSA08J-334YN	RESISTOR	330kΩ,1/10W
R697	QRSA08J-334YN	RESISTOR	330kΩ,1/10W
R698	QRSA08J-334YN	RESISTOR	330kΩ,1/10W
R699	QRSA08J-334YN	RESISTOR	330kΩ,1/10W
R700	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R701	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R707	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R708	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R709	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R710	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
C1	QETC1CM-336	E CAPACITOR	33μF,16V
C2	QETC1CM-336	E CAPACITOR	33μF,16V
C3	QETC1EM-335	E CAPACITOR	3.3μF,25V
C4	QETC1EM-335	E CAPACITOR	3.3μF,25V
C5	QETC1CM-106	E CAPACITOR	10μF,16V
C6	QETC1CM-106	E CAPACITOR	10μF,16V
C7	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
C8	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
C9	QETC1HM-105	E CAPACITOR	1μF,50V
C10	QETC1HM-105	E CAPACITOR	1μF,50V
C11	QETC1EM-335	E CAPACITOR	3.3μF,25V
C12	QETC1EM-335	E CAPACITOR	3.3μF,25V
C13	QETC1CM-106	E CAPACITOR	10μF,16V
C14	QETC1CM-106	E CAPACITOR	10μF,16V
C15	QETC1CM-106	E CAPACITOR	10μF,16V
C16	QETC1CM-106	E CAPACITOR	10μF,16V
C17	QETC0JM-107	E CAPACITOR	100μF,6.3V
C18	QETC0JM-107	E CAPACITOR	100μF,6.3V
C23	QETC1CM-106	E CAPACITOR	10μF,16V
C24	QETC1CM-106	E CAPACITOR	10μF,16V
C27	QETC1CM-106	E CAPACITOR	10μF,16V
C28	QETC1CM-106	E CAPACITOR	10μF,16V
C29	QFN31HJ-183	M CAPACITOR	0.018μF,50V
C30	QFN31HJ-183	M CAPACITOR	0.018μF,50V
C31	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C32	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C33	QETC1HM-105	E CAPACITOR	1μF,50V
C34	QETC1HM-105	E CAPACITOR	1μF,50V
C37	QETC1CM-226	E CAPACITOR	22μF,16V
C38	QETC1CM-226	E CAPACITOR	22μF,16V
C39	QETC1CM-106	E CAPACITOR	10μF,16V
C40	QETC1CM-106	E CAPACITOR	10μF,16V
C49	QETC1CM-337	E CAPACITOR	330μF,16V
C50	QETC1CM-337	E CAPACITOR	330μF,16V
C51	QETC1CM-337	E CAPACITOR	330μF,16V
C52	QETC1CM-337	E CAPACITOR	330μF,16V
C53	QETC1CM-227	E CAPACITOR	220μF,16V
C54	QETC1CM-227	E CAPACITOR	220μF,16V

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
C55	QFP32AF-273M	PP CAPACITOR	0.027μF,100V
C56	QFP32AF-273M	PP CAPACITOR	0.027μF,100V
C57	QETC1EM-335	E CAPACITOR	3.3μF,25V
C58	QETC1EM-335	E CAPACITOR	3.3μF,25V
C59	QFP32AF-472M	PP CAPACITOR	0.0047μF,100V
C60	QFP32AF-472M	PP CAPACITOR	0.0047μF,100V
C61	QFP32AF-562M	PP CAPACITOR	0.0056μF,100V
C62	QFP32AF-562M	PP CAPACITOR	0.0056μF,100V
C63	QFN31HJ-122	M CAPACITOR	0.0012μF,50V
C64	QFN31HJ-122	M CAPACITOR	0.0012μF,50V
C65	QETC1CM-226	E CAPACITOR	22μF,16V
C66	QETC1CM-226	E CAPACITOR	22μF,16V
C67	QEBC1HM-334	E CAPACITOR	0.33μF,50V
C68	QEBC1HM-334	E CAPACITOR	0.33μF,50V
C69	QEBC1HM-104	E CAPACITOR	0.1μF,50V
C70	QEBC1HM-104	E CAPACITOR	0.1μF,50V
C71	QENC1CM-106	NP E CAPACITOR	10μF,16V
C72	QENC1CM-106	NP E CAPACITOR	10μF,16V
C73	QFN31HJ-473	M CAPACITOR	0.047μF,50V
C74	QFN31HJ-473	M CAPACITOR	0.047μF,50V
C80	QCYA1HK-223	CAPACITOR	0.022μF,50V
C81	QETC1CM-476	E CAPACITOR	47μF,16V
C83	QENC1CM-106	NP E CAPACITOR	10μF,16V
C84	QENC1CM-106	NP E CAPACITOR	10μF,16V
C91	QCSA1HJ-122	CAPACITOR	0.0012μF,50V
C92	QCSA1HJ-122	CAPACITOR	0.0012μF,50V
C93	QFV71HJ-274	TF CAPACITOR	0.27μF,50V
C94	QFV71HJ-274	TF CAPACITOR	0.27μF,50V
C95	QEBC1CM-106	E CAPACITOR	10μF,16V
C96	QEBC1CM-106	E CAPACITOR	10μF,16V
C97	QFN31HJ-273	M CAPACITOR	0.027μF,50V
C98	QFN31HJ-273	M CAPACITOR	0.027μF,50V
C99	QCTA1CH-101	CAPACITOR	100pF,16V
C100	QCTA1CH-101	CAPACITOR	100pF,16V
C101	QEE80JM-107	TANTAL CAPACITOR	100μF,6.3V
C102	QEE80JM-107	TANTAL CAPACITOR	100μF,6.3V
C103	QETC1CM-337	E CAPACITOR	330μF,16V
C104	QETC1EM-227	E CAPACITOR, 525	220μF,25V
C104	QETC1CM-337	E CAPACITOR, 522	330μF,16V
C105	QETC1CM-337	E CAPACITOR	330μF,16V
C106	QETC1EM-227	E CAPACITOR, 525	220μF,25V
C106	QETC1CM-337	E CAPACITOR, 522	330μF,16V
C107	QFN31HJ-183	M CAPACITOR	0.018μF,50V
C108	QFN31HJ-183	M CAPACITOR	0.018μF,50V
C113	QCYA1HJ-103	CAPACITOR	0.01μF,50V
C114	QETC1EM-107	E CAPACITOR	100μF,25V
C115	QETC1CM-337	E CAPACITOR	330μF,16V
C116	QCYA1HK-103	CAPACITOR	0.01μF,50V
C117	QCYA1HK-103	CAPACITOR, 522	0.01μF,50V
C119	QETC1CM-337	E CAPACITOR, 522	330μF,16V
C119	QETC1EM-227	E CAPACITOR, 525	220μF,25V
C120	QCYA1HK-103	CAPACITOR	0.01μF,50V
C121	QETC1CM-337	E CAPACITOR	330μF,16V
C122	QCYA1HK-103	CAPACITOR	0.01μF,50V
C123	QFN31HJ-152	M CAPACITOR	0.0015μF,50V
C124	QFN31HJ-152	M CAPACITOR	0.0015μF,50V

△REF No.	PART No.	PART NAME, DESCRIPTION	
C601	QCTA1CH-271	CAPACITOR	270pF,16V
C602	QFN31HJ-153	M CAPACITOR	0.015μF,50V
C604	QEBC1EM-475	E CAPACITOR	4.7μF,25V
C605	QETC1CM-107	E CAPACITOR	100μF,16V
C606	QETC1CM-227	E CAPACITOR	220μF,16V
C608	QETC1CM-226	E CAPACITOR	22μF,16V
C609	QETC1CM-226	E CAPACITOR	22μF,16V
C611	QETC1CM-107	E CAPACITOR	100μF,16V
C612	QETC1CM-476	E CAPACITOR	47μF,16V
C620	QETC1CM-226	E CAPACITOR	22μF,16V
C621	QETC1CM-226	E CAPACITOR	22μF,16V
C622	QETC1CM-107	E CAPACITOR	100μF,16V
C626	QENC1AM-226	E CAPACITOR	22μF,10V
C627	QENC1AM-226	E CAPACITOR	22μF,10V
C628	QENC1AM-226	E CAPACITOR	22μF,10V
C629	QETC1CM-336	E CAPACITOR	33μF,16V
C630	QETC1CM-336	E CAPACITOR	33μF,16V
C631	QETC1CM-336	E CAPACITOR	33μF,16V
C632	QETC1CM-336	E CAPACITOR	33μF,16V
C633	QCTA1CH-120	CAPACITOR	12pF,16V
C635	QETC1CM-227	E CAPACITOR	220μF,16V
C636	QETC1CM-227	E CAPACITOR	220μF,16V
C639	QETC1CM-107	E CAPACITOR	100μF,16V
C641	QETC1CM-107	E CAPACITOR	100μF,16V
C642	QETC1CM-476	E CAPACITOR	47μF,16V
C643	QETC1CM-476	E CAPACITOR	47μF,16V
C645	QETC1CM-107	E CAPACITOR	100μF,16V
C646	QETC1EM-335	E CAPACITOR	3.3μF,25V
C647	QETC1CM-106	E CAPACITOR	10μF,16V
C648	QETC1CM-336	E CAPACITOR	33μF,16V
C649	QCYA1HK-103	CAPACITOR	0.01μF,50V
C650	QETC1CM-476	E CAPACITOR	47μF,16V
C651	QETC1CM-107	E CAPACITOR	100μF,16V
C652	QETC1CM-107	E CAPACITOR	100μF,16V
C654	QETC1CM-107	E CAPACITOR	100μF,16V
C655	QCTA1CH-221	CAPACITOR	220pF,16V
L3	PGZ00917-822	COIL	
L4	PGZ00917-822	COIL	
LPF1	PGZ01056	LOW PASS FILTER	
LPF2	PGZ01056	LOW PASS FILTER	
RY1	QRD161J-0R0	RESISTOR	0Ω,1/6W
RY2	QRD161J-0R0	RESISTOR	0Ω,1/6W
RY3	PU55260	RELAY	
RY4	QRD162J-0R0	RESISTOR	0Ω,1/6W
CL1	PGZ01377-03	STYLE PIN, ×4	
TP1	PU54983	TEST PIN, ×3	

#△REF No.	PART No.	PART NAME, DESCRIPTION
CN5	PU58844-3	CONNECTOR
CN6	PU58844-3R	CONNECTOR, 525
CN6	PU58844-3Y	CONNECTOR, 522
CN7	PU58844-3R	CONNECTOR
CN8	PU58844-5	CONNECTOR
CN9	PU58844-4	CONNECTOR
CN10	PU58844-5R	CONNECTOR
CN11	PU58844-2	CONNECTOR
CN12	PU58844-8	CONNECTOR

AUDIO 2 BOARD ASSEMBLY <22>

PWBA	PRK10061A-03	AUDIO 2 BOARD ASSY
STK1	PRD30072-59	STICKER
IC1	M5201L	I.C.(M)
IC2	M5201L	I.C.(M)
IC3	M5201L	I.C.(M)
IC4	M5201L	I.C.(M)
IC5	M5201L	I.C.(M)
IC6	M5201L	I.C.(M)
IC7	M5201L	I.C.(M)
IC8	M5201L	I.C.(M)
IC9	M5218AL	I.C.(M)
IC10	M5218AL	I.C.(M)
IC11	M50253P	I.C.(M)
IC12	M5278L12	I.C.(M)
IC13	M5278L05	I.C.(M)
Q1	DTC323TS	TRANSISTOR
Q2	DTC323TS	TRANSISTOR
Q3	DTC323TS	TRANSISTOR
Q4	DTC323TS	TRANSISTOR
Q5	DTC323TS	TRANSISTOR
Q6	DTC323TS	TRANSISTOR
Q7	DTC323TS	TRANSISTOR
Q8	DTC323TS	TRANSISTOR
Q9	DTC323TS	TRANSISTOR
Q10	DTC124ES	TRANSISTOR
Q11	DTA124ES	TRANSISTOR
Q12	2SB1030R,S	TRANSISTOR
Q13	2SC1740S(RS)	TRANSISTOR
Q14	2SC1740S(RS)	TRANSISTOR
Q15	DTC323TS	TRANSISTOR
Q16	DTC323TS	TRANSISTOR
Q17	DTC323TS	TRANSISTOR
Q18	DTC323TS	TRANSISTOR
Q19	DTC323TS	TRANSISTOR
Q20	DTC323TS	TRANSISTOR
Q21	DTA114ES	TRANSISTOR

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
Q22	DTA114ES	TRANSISTOR	
Q23	DTA114ES	TRANSISTOR	
Q24	DTA114ES	TRANSISTOR	
D1	1SS133	DIODE	
D2	1SS133	DIODE	
D3	1SS133	DIODE	
R1	QRD161J-472	RESISTOR	4.7kΩ ,1／6W
R2	QRD161J-472	RESISTOR	4.7kΩ ,1／6W
R3	QRD161J-472	RESISTOR	4.7kΩ ,1／6W
R4	QRD161J-472	RESISTOR	4.7kΩ ,1／6W
R5	QRD161J-472	RESISTOR	4.7kΩ ,1／6W
R6	QRD161J-472	RESISTOR	4.7kΩ ,1／6W
R7	QRD161J-472	RESISTOR	4.7kΩ ,1／6W
R8	QRD161J-472	RESISTOR	4.7kΩ ,1／6W
R9	QRD161J-104	RESISTOR	100kΩ ,1／6W
R10	QRD161J-104	RESISTOR	100kΩ ,1／6W
R11	QRD161J-104	RESISTOR	100kΩ ,1／6W
R12	QRD161J-104	RESISTOR	100kΩ ,1／6W
R13	QRD161J-104	RESISTOR	100kΩ ,1／6W
R14	QRD161J-104	RESISTOR	100kΩ ,1／6W
R15	QRD161J-104	RESISTOR	100kΩ ,1／6W
R16	QRD161J-104	RESISTOR	100kΩ ,1／6W
R17	QRD161J-102	RESISTOR	1kΩ ,1／6W
R18	QRD161J-102	RESISTOR	1kΩ ,1／6W
R19	QRD161J-102	RESISTOR	1kΩ ,1／6W
R20	QRD161J-102	RESISTOR	1kΩ ,1／6W
R21	QRD161J-683	RESISTOR	68kΩ ,1／6W
R22	QRD161J-683	RESISTOR	68kΩ ,1／6W
R23	QRD161J-683	RESISTOR	68kΩ ,1／6W
R24	QRD161J-683	RESISTOR	68kΩ ,1／6W
R25	QRD161J-472	RESISTOR	4.7kΩ ,1／6W
R26	QRD161J-472	RESISTOR	4.7kΩ ,1／6W
R27	QRD161J-472	RESISTOR	4.7kΩ ,1／6W
R28	QRD161J-472	RESISTOR	4.7kΩ ,1／6W
R29	QRD161J-472	RESISTOR	4.7kΩ ,1／6W
R30	QRD161J-472	RESISTOR	4.7kΩ ,1／6W
R31	QRD161J-472	RESISTOR	4.7kΩ ,1／6W
R32	QRD161J-472	RESISTOR	4.7kΩ ,1／6W
R33	QRD161J-104	RESISTOR	100kΩ ,1／6W
R34	QRD161J-104	RESISTOR	100kΩ ,1／6W
R35	QRD161J-104	RESISTOR	100kΩ ,1／6W
R36	QRD161J-104	RESISTOR	100kΩ ,1／6W
R37	QRD161J-104	RESISTOR	100kΩ ,1／6W
R38	QRD161J-104	RESISTOR	100kΩ ,1／6W
R39	QRD161J-104	RESISTOR	100kΩ ,1／6W
R40	QRD161J-104	RESISTOR	100kΩ ,1／6W
R41	QRD161J-473	RESISTOR	47kΩ ,1／6W
R42	QRD161J-473	RESISTOR	47kΩ ,1／6W
R43	QRD161J-473	RESISTOR	47kΩ ,1／6W
R44	QRD161J-473	RESISTOR	47kΩ ,1／6W
R45	QRD161J-473	RESISTOR	47kΩ ,1／6W
R46	QRD161J-473	RESISTOR	47kΩ ,1／6W
R47	QRD161J-473	RESISTOR	47kΩ ,1／6W
R48	QRD161J-473	RESISTOR	47kΩ ,1／6W
R49	QRD161J-473	RESISTOR	47kΩ ,1／6W

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R50	QRD161J-473	RESISTOR	47kΩ ,1／6W
R51	QRD161J-331	RESISTOR	330Ω ,1／6W
R52	QRD161J-331	RESISTOR	330Ω ,1／6W
R53	QRD161J-683	RESISTOR	68kΩ ,1／6W
R54	QRD161J-683	RESISTOR	68kΩ ,1／6W
R55	QRD161J-683	RESISTOR	68kΩ ,1／6W
R56	QRD161J-683	RESISTOR	68kΩ ,1／6W
R57	QRD161J-333	RESISTOR	33kΩ ,1／6W
R58	QRD161J-333	RESISTOR	33kΩ ,1／6W
R59	QRD161J-333	RESISTOR	33kΩ ,1／6W
R60	QRD161J-333	RESISTOR	33kΩ ,1／6W
R61	QRD161J-333	RESISTOR	33kΩ ,1／6W
R62	QRD161J-333	RESISTOR	33kΩ ,1／6W
R63	QRD161J-333	RESISTOR	33kΩ ,1／6W
R64	QRD161J-333	RESISTOR	33kΩ ,1／6W
R65	QRD161J-472	RESISTOR	4.7kΩ ,1／6W
R66	QRD161J-472	RESISTOR	4.7kΩ ,1／6W
R67	QRD161J-104	RESISTOR	100kΩ ,1／6W
R68	QRD161J-104	RESISTOR	100kΩ ,1／6W
R69	QRD161J-104	RESISTOR	100kΩ ,1／6W
R70	QRD161J-104	RESISTOR	100kΩ ,1／6W
R71	QRD161J-104	RESISTOR	100kΩ ,1／6W
R72	QRD161J-104	RESISTOR	100kΩ ,1／6W
R73	QRD161J-331	RESISTOR	330Ω ,1／6W
R74	QRD161J-331	RESISTOR	330Ω ,1／6W
R75	QRD161J-683	RESISTOR	68kΩ ,1／6W
R76	QRD161J-683	RESISTOR	68kΩ ,1／6W
R77	QRD161J-152	RESISTOR	1.5kΩ ,1／6W
R78	QRD161J-152	RESISTOR	1.5kΩ ,1／6W
R79	QRD161J-103	RESISTOR	10kΩ ,1／6W
R80	QRD161J-103	RESISTOR	10kΩ ,1／6W
R81	QRD161J-223	RESISTOR	22kΩ ,1／6W
R82	QRD161J-223	RESISTOR	22kΩ ,1／6W
R83	QRD161J-821	RESISTOR	820Ω ,1／6W
R84	QRD161J-821	RESISTOR	820Ω ,1／6W
R85	QRD161J-181	RESISTOR	180Ω ,1／6W
R86	QRD161J-181	RESISTOR	180Ω ,1／6W
R87	QVZ3521-681	V RESISTOR	680Ω
R88	QVZ3521-681	V RESISTOR	680Ω
R89	QRD161J-102	RESISTOR	1kΩ ,1／6W
R90	QRD161J-102	RESISTOR	1kΩ ,1／6W
R91	QRD161J-561	RESISTOR	560Ω ,1／6W
R92	QRD161J-561	RESISTOR	560Ω ,1／6W
R93	QRD161J-471	RESISTOR	470Ω ,1／6W
R94	QRD161J-471	RESISTOR	470Ω ,1／6W
R95	QRD161J-682	RESISTOR	6.8kΩ ,1／6W
R96	QRD161J-682	RESISTOR	6.8kΩ ,1／6W
R97	QRD161J-153	RESISTOR	15kΩ ,1／6W
R98	QRD161J-153	RESISTOR	15kΩ ,1／6W
R99	QRD161J-103	RESISTOR	10kΩ ,1／6W
R101	QRD161J-104	RESISTOR	100kΩ ,1／6W
R102	QRD161J-104	RESISTOR	100kΩ ,1／6W
R103	QRD161J-102	RESISTOR	1kΩ ,1／6W
R104	QRD161J-102	RESISTOR	1kΩ ,1／6W
R105	QRD161J-472	RESISTOR	4.7kΩ ,1／6W
R106	QRD161J-472	RESISTOR	4.7kΩ ,1／6W
R107	QRD161J-683	RESISTOR	68kΩ ,1／6W

⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R108	QRD161J-102	RESISTOR	1kΩ ,1／6W
C1	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C2	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C3	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C4	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C5	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C6	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C7	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C8	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C9	QETC1EM-475ZE	E CAPACITOR	4.7μF,25V
C10	QETC1EM-475ZE	E CAPACITOR	4.7μF,25V
C11	QETC1EM-475ZE	E CAPACITOR	4.7μF,25V
C12	QETC1EM-475ZE	E CAPACITOR	4.7μF,25V
C13	QETC1EM-475ZE	E CAPACITOR	4.7μF,25V
C14	QETC1EM-475ZE	E CAPACITOR	4.7μF,25V
C15	QETC1EM-475ZE	E CAPACITOR	4.7μF,25V
C16	QETC1EM-475ZE	E CAPACITOR	4.7μF,25V
C17	QETC1CM-226ZE	E CAPACITOR	22μF,16V
C18	QETC1CM-226ZE	E CAPACITOR	22μF,16V
C19	QETC1CM-226ZE	E CAPACITOR	22μF,16V
C20	QETC1CM-226ZE	E CAPACITOR	22μF,16V
C21	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C22	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C23	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C24	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C25	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C26	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C27	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C28	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C29	QETC1EM-475ZE	E CAPACITOR	4.7μF,25V
C30	QETC1EM-475ZE	E CAPACITOR	4.7μF,25V
C31	QETC1EM-475ZE	E CAPACITOR	4.7μF,25V
C32	QETC1EM-475ZE	E CAPACITOR	4.7μF,25V
C33	QETC1EM-475ZE	E CAPACITOR	4.7μF,25V
C34	QETC1EM-475ZE	E CAPACITOR	4.7μF,25V
C35	QETC1EM-475ZE	E CAPACITOR	4.7μF,25V
C36	QETC1EM-475ZE	E CAPACITOR	4.7μF,25V
C37	QENC1CM-106	NP E CAPACITOR	10μF,16V
C38	QENC1CM-106	NP E CAPACITOR	10μF,16V
C39	QENC1CM-106	NP E CAPACITOR	10μF,16V
C40	QETC1CM-226ZE	E CAPACITOR	22μF,16V
C41	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C42	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C43	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C44	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C45	QETC1EM-475ZE	E CAPACITOR	4.7μF,25V
C46	QETC1EM-475ZE	E CAPACITOR	4.7μF,25V
C47	QETC1EM-475ZE	E CAPACITOR	4.7μF,25V
C48	QETC1EM-475ZE	E CAPACITOR	4.7μF,25V
C49	QETC1CM-226ZE	E CAPACITOR	22μF,16V
C50	QETC1CM-226ZE	E CAPACITOR	22μF,16V
C51	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C53	QETC1CM-226ZE	E CAPACITOR	22μF,16V
C54	QETC1CM-226ZE	E CAPACITOR	22μF,16V
C55	QETC1EM-475ZE	E CAPACITOR	4.7μF,25V
C56	QETC1EM-475ZE	E CAPACITOR	4.7μF,25V

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
C57	QETC1CM-226ZE	E CAPACITOR	22μF,16V
C58	QETC1CM-226ZE	E CAPACITOR	22μF,16V
C59	QETC1CM-476ZE	E CAPACITOR	47μF,16V
C60	QETC1CM-337ZE	E CAPACITOR	330μF,16V
C61	QETC1EM-476ZE	E CAPACITOR	47μF,25V
C62	QCF31HP-103	CAPACITOR	0.01μF,50V
C63	QCF31HP-103	CAPACITOR	0.01μF,50V
C64	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C65	QCF31HP-103	CAPACITOR	0.01μF,50V
C66	QETC1CM-476ZE	E CAPACITOR	47μF,16V
C67	QETC1CM-476ZE	E CAPACITOR	47μF,16V
C68	QCF31HP-103	CAPACITOR	0.01μF,50V
C69	QETC1CM-226ZE	E CAPACITOR	22μF,16V
C70	QETC1CM-226ZE	E CAPACITOR	22μF,16V
C71	QCS31HJ-220	CAPACITOR	22pF,50V
C72	QCS31HJ-100	CAPACITOR	10pF,50V
C73	QCS31HJ-4R0	CAPACITOR	4pF,50V
C74	QCS31HJ-4R0	CAPACITOR	4pF,50V
EJ1	PGZ00582	EJECTOR, ×2	
CN1	PGZ00421-64	MALE CONNECTOR	

AUDIO 3 BOARD ASSEMBLY <23>

PWBA	PRK10062B	AUDIO 3 BOARD ASSY	
STK1	PRD30072-58	STICKER	
IC1	AN6298NS	I.C.(M)	
IC2	AN6298NS	I.C.(M)	
IC3	AN3922NS	I.C.(M)	
IC4	AN3922NS	I.C.(M)	
IC6	JCP0020	I.C.(M)	
IC7	AN3931NC-A	I.C.(M)	
IC10	NJM2068MD	I.C.(M)	
IC11	NJM2068MD	I.C.(M)	
IC12	NJM2068MD	I.C.(M)	
IC13	M5278D12	I.C.(M)	
IC14	M5278D05	I.C.(M)	
IC15	M5278L05	I.C.(M)	
IC16	DT5C124E	I.C.(M)	
IC17	M5278L05	I.C.(M)	
Q2	DTA124EK	TRANSISTOR	
Q3	DTC124TK	TRANSISTOR	
Q4	2SB1030R,S	TRANSISTOR	
Q5	2SB1030R,S	TRANSISTOR	
Q6	2SB1030R,S	TRANSISTOR	
Q9	DTC124TK	TRANSISTOR	
Q10	2SB1030R,S	TRANSISTOR	

2 3

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
Q11	DTA124ES	TRANSISTOR	
Q16	DTC144WK	TRANSISTOR	
Q33	2SA1037K	TRANSISTOR	
Q35	2SA1037K	TRANSISTOR	
D3	1SS133	DIODE	
DA1	DAP202K	DIODE	
R1	QRSA08J-182YN	RESISTOR	1.8kΩ,1/10W
R2	QRSA08J-182YN	RESISTOR	1.8kΩ,1/10W
R3	QVZ3513-332	V RESISTOR	3.3kΩ
R4	QVZ3513-332	V RESISTOR	3.3kΩ
R5	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
R6	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
R7	NRVA62D-622N	RESISTOR	6.2kΩ,1/16W
R8	NRVA62D-622N	RESISTOR	6.2kΩ,1/16W
R9	QRSA08J-681YN	RESISTOR	680Ω,1/10W
R10	QRSA08J-681YN	RESISTOR	680Ω,1/10W
R11	NRVA62D-242N	RESISTOR	2.4kΩ,1/16W
R12	NRVA62D-242N	RESISTOR	2.4kΩ,1/16W
R13	NRVA62D-183N	RESISTOR	18kΩ,1/16W
R14	NRVA62D-183N	RESISTOR	18kΩ,1/16W
R15	NRVA62D-562N	RESISTOR	5.6kΩ,1/16W
R16	NRVA62D-562N	RESISTOR	5.6kΩ,1/16W
R17	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R18	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R19	NRVA62D-163N	RESISTOR	16kΩ,1/16W
R20	NRVA62D-163N	RESISTOR	16kΩ,1/16W
R21	NRVA62D-912N	RESISTOR	9.1kΩ,1/16W
R22	NRVA62D-912N	RESISTOR	9.1kΩ,1/16W
R25	NRVA62D-332N	RESISTOR	3.3kΩ,1/16W
R26	NRVA62D-332N	RESISTOR	3.3kΩ,1/16W
R27	NRVA62D-562N	RESISTOR	5.6kΩ,1/16W
R28	NRVA62D-562N	RESISTOR	5.6kΩ,1/16W
R29	NRVA62D-112N	RESISTOR	1.1kΩ,1/16W
R30	NRVA62D-112N	RESISTOR	1.1kΩ,1/16W
R31	NRVA62D-103N	RESISTOR	10kΩ,1/16W
R32	NRVA62D-103N	RESISTOR	10kΩ,1/16W
R39	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R40	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R45	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R46	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R47	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R48	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R51	QRSA08J-124YN	RESISTOR	120kΩ,1/10W
R52	QRSA08J-124YN	RESISTOR	120kΩ,1/10W
R60	QRSA08J-124YN	RESISTOR	120kΩ,1/10W
R61	QRSA08J-392YN	RESISTOR	3.9kΩ,1/10W
R62	QRSA08J-272YN	RESISTOR	2.7kΩ,1/10W
R63	QVZ3513-332	V RESISTOR	3.3kΩ
R64	QVZ3513-222	V RESISTOR	2.2kΩ
R65	QRSA08J-103YN	RESISTOR	10kΩ,1/10W

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R66	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R67	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R68	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R69	QRSA08J-224YN	RESISTOR	220kΩ,1/10W
R70	QRSA08J-224YN	RESISTOR	220kΩ,1/10W
R71	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R72	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R73	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R74	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R75	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R76	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R77	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R78	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R79	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R80	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R81	QRSA08J-153YN	RESISTOR	15kΩ,1/10W
R82	QRSA08J-153YN	RESISTOR	15kΩ,1/10W
R83	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R84	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R95	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R96	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R97	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R98	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R99	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R100	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R101	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R102	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R103	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R104	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R115	QRSA08J-153YN	RESISTOR	15kΩ,1/10W
R116	QRSA08J-273YN	RESISTOR	27kΩ,1/10W
R117	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
R118	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
R123	QRSA08J-153YN	RESISTOR	15kΩ,1/10W
R124	QRSA08J-153YN	RESISTOR	15kΩ,1/10W
R125	QRSA08J-562YN	RESISTOR	5.6kΩ,1/10W
R126	QRSA08J-562YN	RESISTOR	5.6kΩ,1/10W
R127	QRSA08J-392YN	RESISTOR	3.9kΩ,1/10W
R128	QRSA08J-392YN	RESISTOR	3.9kΩ,1/10W
R129	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R130	QRSA08J-822YN	RESISTOR	8.2kΩ,1/10W
R131	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R132	QRSA08J-153YN	RESISTOR	15kΩ,1/10W
R133	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R134	QRSA08J-202YN	RESISTOR	2kΩ,1/10W
R135	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R136	QRSA08J-124YN	RESISTOR	120kΩ,1/10W
R137	QRSA08J-823YN	RESISTOR	82kΩ,1/10W
R138	QRSA08J-273YN	RESISTOR	27kΩ,1/10W
R139	QRSA08J-823YN	RESISTOR	82kΩ,1/10W
R140	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R141	QRSA08J-271YN	RESISTOR	270Ω,1/10W
R142	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R143	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R144	QRSA08J-103YN	RESISTOR	10kΩ,1/10W

⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R146	QRSA08J-124YN	RESISTOR	120kΩ ,1／10W
R147	QRSA08J-103YN	RESISTOR	10kΩ ,1／10W
R148	QRSA08J-472YN	RESISTOR	4.7kΩ ,1／10W
R183	QRSA08J-473YN	RESISTOR	47kΩ ,1／10W
R184	QRSA08J-472YN	RESISTOR	4.7kΩ ,1／10W
R187	QRSA08J-103YN	RESISTOR	10kΩ ,1／10W
R199	QRSA08J-152YN	RESISTOR	1.5kΩ ,1／10W
R200	QRSA08J-152YN	RESISTOR	1.5kΩ ,1／10W
R201	QRSA08J-273YN	RESISTOR	27kΩ ,1／10W
R202	QRSA08J-273YN	RESISTOR	27kΩ ,1／10W
R208	PU52108-2R2K	POSITIVE THERMISTOR	
R211	QRSA08J-472YN	RESISTOR	4.7kΩ ,1／10W
R212	QRSA08J-472YN	RESISTOR	4.7kΩ ,1／10W
R219	QRD161J-183	RESISTOR	18kΩ ,1／6W
R220	QRD161J-183	RESISTOR	18kΩ ,1／6W
C1	QENC1AM-226	E CAPACITOR	22μF,10V
C2	QENC1AM-226	E CAPACITOR	22μF,10V
C3	QFN31HJ-102	M CAPACITOR	0.001μF,50V
C4	QFN31HJ-102	M CAPACITOR	0.001μF,50V
C5	QFN31HJ-222	M CAPACITOR	0.0022μF,50V
C6	QFN31HJ-222	M CAPACITOR	0.0022μF,50V
C7	QFN31HJ-102	M CAPACITOR	0.001μF,50V
C8	QFN31HJ-102	M CAPACITOR	0.001μF,50V
C9	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C10	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C11	QFP32AF-103M	PP CAPACITOR	0.01μF,100V
C12	QFP32AF-103M	PP CAPACITOR	0.01μF,100V
C13	QENC1CM-106	NP E CAPACITOR	10μF,16V
C14	QENC1CM-106	NP E CAPACITOR	10μF,16V
C15	QENC1CM-476	NP E CAPACITOR	47μF,16V
C16	QENC1CM-476	NP E CAPACITOR	47μF,16V
C17	QEBA1EM-475	E CAPACITOR	4.7μF,25V
C18	QEBA1EM-475	E CAPACITOR	4.7μF,25V
C19	QFP32AF-222M	PP CAPACITOR	0.0022μF,100V
C20	QFP32AF-222M	PP CAPACITOR	0.0022μF,100V
C23	QFN31HJ-102	M CAPACITOR	0.001μF,50V
C24	QFN31HJ-102	M CAPACITOR	0.001μF,50V
C25	QFN31HJ-222	M CAPACITOR	0.0022μF,50V
C26	QFN31HJ-222	M CAPACITOR	0.0022μF,50V
C27	QENC1EM-475	NP E CAPACITOR	4.7μF,25V
C28	QENC1EM-475	NP E CAPACITOR	4.7μF,25V
C29	QFP32AF-223M	PP CAPACITOR	0.022μF,100V
C30	QFP32AF-223M	PP CAPACITOR	0.022μF,100V
C31	QETC1CM-476E	E CAPACITOR	47μF,16V
C32	QETC1CM-476E	E CAPACITOR	47μF,16V
C33	QETC1CM-476E	E CAPACITOR	47μF,16V
C34	QETC1CM-476E	E CAPACITOR	47μF,16V
C35	QENC1HM-225	NP E CAPACITOR	2.2μF,50V
C36	QENC1HM-225	NP E CAPACITOR	2.2μF,50V
C37	QETC1CM-476E	E CAPACITOR	47μF,16V
C38	QETC1CM-476E	E CAPACITOR	47μF,16V
C39	QCYA1HK-103	CAPACITOR	0.01μF,50V
C40	QCYA1HK-103	CAPACITOR	0.01μF,50V

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
C41	QETC1CM-226E	E CAPACITOR	22μF,16V
C42	QETC1CM-226E	E CAPACITOR	22μF,16V
C49	QETC1HM-105ZE	E CAPACITOR	1μF,50V
C50	QETC1HM-105ZE	E CAPACITOR	1μF,50V
C53	QETC0JM-476ZE	E CAPACITOR	47μF,6.3V
C54	QETC0JM-476ZE	E CAPACITOR	47μF,6.3V
C61	QCYA1HK-102	CAPACITOR	0.001μF,50V
C62	QCYA1HK-102	CAPACITOR	0.001μF,50V
C63	QETC0JM-107ZE	E CAPACITOR	100μF,6.3V
C64	QETC0JM-107ZE	E CAPACITOR	100μF,6.3V
C65	QCYA1HK-103	CAPACITOR	0.01μF,50V
C66	QCYA1HK-103	CAPACITOR	0.01μF,50V
C67	QCTA1CH-101	CAPACITOR	100pF,16V
C68	QCTA1CH-101	CAPACITOR	100pF,16V
C69	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C70	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C71	QENA1AM-226	NP E CAPACITOR	22μF,10V
C72	QENA1AM-226	NP E CAPACITOR	22μF,10V
C73	QCTA1CH-820	CAPACITOR	82pF,16V
C74	QCTA1CH-820	CAPACITOR	82pF,16V
C75	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C76	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C77	QENA1CM-226	NP E CAPACITOR	22μF,16V
C78	QENA1CM-226	NP E CAPACITOR	22μF,16V
C79	QCTA1CH-820	CAPACITOR	82pF,16V
C80	QCTA1CH-820	CAPACITOR	82pF,16V
C81	QCTA1CH-820	CAPACITOR	82pF,16V
C82	QCTA1CH-820	CAPACITOR	82pF,16V
C83	QCTA1CH-820	CAPACITOR	82pF,16V
C84	QCTA1CH-820	CAPACITOR	82pF,16V
C85	QETC1CM-107E	E CAPACITOR	100μF,16V
C86	QETC1CM-107E	E CAPACITOR	100μF,16V
C89	QETC1CM-107E	E CAPACITOR	100μF,16V
C90	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C91	QETC1CM-106E	E CAPACITOR	10μF,16V
C92	QETC1CM-106ZE	E CAPACITOR	10μF,16V
C93	QCTA1CH-8R0	CAPACITOR	8pF,16V
C94	QCTA1CH-8R0	CAPACITOR	8pF,16V
C95	QETC1CM-476ZE	E CAPACITOR	47μF,16V
C96	QETC1CM-476ZE	E CAPACITOR	47μF,16V
C97	QCYA1HK-103	CAPACITOR	0.01μF,50V
C98	QCYA1HK-103	CAPACITOR	0.01μF,50V
C109	QENC1CM-106	NP E CAPACITOR	10μF,16V
C110	QENC1CM-106	NP E CAPACITOR	10μF,16V
C111	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C112	QETC1CM-107E	E CAPACITOR	100μF,16V
C113	QETC1CM-336E	E CAPACITOR	33μF,16V
C114	QETC1CM-336ZE	E CAPACITOR	33μF,16V
C115	QCTA1CH-100	CAPACITOR	10pF,16V
C116	QCTA1CH-100	CAPACITOR	10pF,16V
C117	QETC1CM-476E	E CAPACITOR	47μF,16V
C118	QCYA1HK-103	CAPACITOR	0.01μF,50V
C119	QETC1CM-226E	E CAPACITOR	22μF,16V
C120	QETC1CM-226E	E CAPACITOR	22μF,16V
C138	QCYA1HK-103	CAPACITOR	0.01μF,50V

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
C139	QENC1HM-105	NP E CAPACITOR	1μF,50V
C140	QENC1HM-105	NP E CAPACITOR	1μF,50V
C141	QCTA1CH-331	CAPACITOR	330pF,16V
C142	QCTA1CH-331	CAPACITOR	330pF,16V
C143	QFN31HJ-102	M CAPACITOR	0.001μF,50V
C144	QFN31HJ-102	M CAPACITOR	0.001μF,50V
C145	QENA1AM-476	E CAPACITOR	47μF,10V
C146	QENA1AM-476	E CAPACITOR	47μF,10V
C147	QENC1CM-106	NP E CAPACITOR	10μF,16V
C148	QENC1CM-106	NP E CAPACITOR	10μF,16V
C149	QCTA1CH-560	CAPACITOR	56pF,16V
C150	QETC0JM-227E	E CAPACITOR	220μF,6.3V
C151	QETC1CM-106E	E CAPACITOR	10μF,16V
C152	QETC1CM-106E	E CAPACITOR	10μF,16V
C153	QENC1CM-106	NP E CAPACITOR	10μF,16V
C154	QENC1CM-106	NP E CAPACITOR	10μF,16V
C155	QFN31HJ-392	M CAPACITOR	0.0039μF,50V
C156	QFN31HJ-392	M CAPACITOR	0.0039μF,50V
C157	QETC1AM-226ZE	E CAPACITOR	22μF,10V
C158	QETC1AM-226E	E CAPACITOR	22μF,10V
C159	QFN31HJ-222	M CAPACITOR	0.0022μF,50V
C160	QFN31HJ-222	M CAPACITOR	0.0022μF,50V
C161	QFV71HJ-104	TF CAPACITOR	0.1μF,50V
C162	QFV71HJ-104	TF CAPACITOR	0.1μF,50V
C163	QFN31HJ-822	M CAPACITOR	0.0082μF,50V
C164	QFN31HJ-822	M CAPACITOR	0.0082μF,50V
C165	QCTA1CH-471	CAPACITOR	470pF,16V
C166	QCTA1CH-471	CAPACITOR	470pF,16V
C167	QETC0JM-227E	E CAPACITOR	220μF,6.3V
C168	QFN31HJ-471	M CAPACITOR	470pF,50V
C169	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C170	QETC0JM-107E	E CAPACITOR	100μF,6.3V
C171	QFN31HJ-473	M CAPACITOR	0.047μF,50V
C172	QCTA1CH-561	CAPACITOR	560pF,16V
C174	QETC1HM-225E	E CAPACITOR	2.2μF,50V
C175	QCYA1HK-103	CAPACITOR	0.01μF,50V
C176	QETA1EM-337E	E CAPACITOR	330μF,25V
C177	QETC1CM-337ZE	E CAPACITOR	330μF,16V
C178	QCYA1HK-103	CAPACITOR	0.01μF,50V
C179	QETC1CM-227ZE	E CAPACITOR	220μF,16V
C180	QCYA1HK-103	CAPACITOR	0.01μF,50V
C181	QCYA1HK-103	CAPACITOR	0.01μF,50V
C182	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C183	QETC1CM-476ZE	E CAPACITOR	47μF,16V
C184	QCYA1HK-103	CAPACITOR	0.01μF,50V
C226	QCYA1HK-103	CAPACITOR	0.01μF,50V
C227	QETC1CM-476ZE	E CAPACITOR	47μF,16V
C229	QFN31HJ-682	M CAPACITOR	0.0068μF,50V
C230	QETC1CM-476ZE	E CAPACITOR	47μF,16V
C231	QCYA1HK-103	CAPACITOR	0.01μF,50V
C233	QETC1CM-476ZE	E CAPACITOR	47μF,16V
C234	QCYA1HK-103	CAPACITOR	0.01μF,50V
L3	PU30284-1R	COIL	1.μH
L4	PU30284-1R	COIL	1.μH

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
L5	PU48530-271J	COIL	270μH
L6	PU48530-271J	COIL	270μH
EJ1	PGZ00582	EJECTOR, ×2	
TP1	PU54983	TEST PIN, ×10(×7(522))	
CN1	PGZ00421-64	MALE CONNECTOR	

AUDIO 4 BOARD ASSEMBLY <24>

PWBA	PRK10063B1	AUDIO 4 BOARD ASSY	
R89	NRVA02D-3651AY	RESISTOR	3.65kΩ,1/10W
R90	NRVA02D-3651AY	RESISTOR	3.65kΩ,1/10W
R91	NRVA02D-3651AY	RESISTOR	3.65kΩ,1/10W
R92	NRVA02D-3651AY	RESISTOR	3.65kΩ,1/10W
R93	NRVA02D-7681AY	RESISTOR	7.68kΩ,1/10W
R94	NRVA02D-7681AY	RESISTOR	7.68kΩ,1/10W
R95	NRVA02D-7681AY	RESISTOR	7.68kΩ,1/10W
R96	NRVA02D-7681AY	RESISTOR	7.68kΩ,1/10W
R97	NRVA62D-224N	RESISTOR	220kΩ,1/16W
R98	NRVA62D-224N	RESISTOR	220kΩ,1/16W
R99	NRVA62D-224N	RESISTOR	220kΩ,1/16W
R100	NRVA62D-224N	RESISTOR	220kΩ,1/16W
C149	QCTA1CH-180	CAPACITOR	18pF,16V
C150	QCTA1CH-180	CAPACITOR	18pF,16V
C151	QCTA1CH-180	CAPACITOR	18pF,16V
C152	QCTA1CH-180	CAPACITOR	18pF,16V
C153	QCTA1CH-180	CAPACITOR	18pF,16V
C154	QCTA1CH-180	CAPACITOR	18pF,16V
C155	QCTA1CH-180	CAPACITOR	18pF,16V
C156	QCTA1CH-180	CAPACITOR	18pF,16V
SW6	PGZ00742-02	SLIDE SWITCH	
SPC1	PU59210-001	DOUBLE LOCKING SPACER, ×4	

AUDIO 5 BOARD ASSEMBLY <25>

PWBA	PRK10063B2	AUDIO 5 BOARD ASSY	
IC101	UPC78N12H	I.C.(M)	
IC102	UPC79N12H	I.C.(M)	

⚠REF No.	PART No.	PART NAME, DESCRIPTION	
IC103	UPC78N12H	I.C.(M)	
IC104	UPC79N12H	I.C.(M)	
IC105	M5218AL	I.C.(M)	
IC106	M5218AL	I.C.(M)	
IC107	NJM4556S	I.C.(M)	
IC108	NJM4556S	I.C.(M)	
IC109	NJM4556S	I.C.(M)	
IC110	NJM4556S	I.C.(M)	
Q1	DTC323TS	TRANSISTOR	
Q2	DTC323TS	TRANSISTOR	
Q3	DTC323TS	TRANSISTOR	
Q4	DTC323TS	TRANSISTOR	
Q5	DTC323TS	TRANSISTOR	
Q6	DTC323TS	TRANSISTOR	
Q7	DTC323TS	TRANSISTOR	
Q8	DTC323TS	TRANSISTOR	
Q9	DTC124ES	TRANSISTOR	
Q10	DTA114ES	TRANSISTOR	
Q11	2SB1030RS	TRANSISTOR	
D1	1SS133	DIODE	
D2	RD5.1ES-T1B2	ZENER DIODE	
D3	RD5.1ES-T1B2	ZENER DIODE	
D4	RD5.1ES-T1B2	ZENER DIODE	
D5	RD5.1ES-T1B2	ZENER DIODE	
R101	QRD161J-473	RESISTOR	47kΩ,1/6W
R102	QRD161J-473	RESISTOR	47kΩ,1/6W
R103	QRD161J-473	RESISTOR	47kΩ,1/6W
R104	QRD161J-473	RESISTOR	47kΩ,1/6W
R105	QRV141F-8251AY	CMF RESISTOR	8.25kΩ,1/4W
R106	QRV141F-8251AY	CMF RESISTOR	8.25kΩ,1/4W
R107	QRV141F-8251AY	CMF RESISTOR	8.25kΩ,1/4W
R108	QRV141F-8251AY	CMF RESISTOR	8.25kΩ,1/4W
R109	QRD161J-473	RESISTOR	47kΩ,1/6W
R110	QRD161J-473	RESISTOR	47kΩ,1/6W
R111	QRD161J-473	RESISTOR	47kΩ,1/6W
R112	QRD161J-473	RESISTOR	47kΩ,1/6W
R113	QRV141F-1212AY	CMF RESISTOR	12.1kΩ,1/4W
R114	QRV141F-1212AY	CMF RESISTOR	12.1kΩ,1/4W
R115	QRV141F-1212AY	CMF RESISTOR	12.1kΩ,1/4W
R116	QRV141F-1212AY	CMF RESISTOR	12.1kΩ,1/4W
R117	QRV141F-1212AY	CMF RESISTOR	12.1kΩ,1/4W
R118	QRV141F-1212AY	CMF RESISTOR	12.1kΩ,1/4W
R119	QRV141F-1212AY	CMF RESISTOR	12.1kΩ,1/4W
R120	QRV141F-1212AY	CMF RESISTOR	12.1kΩ,1/4W
R121	QRV141F-1332AY	CMF RESISTOR	13.3kΩ,1/4W
R122	QRV141F-1332AY	CMF RESISTOR	13.3kΩ,1/4W
R123	QRV141F-1332AY	CMF RESISTOR	13.3kΩ,1/4W
R124	QRV141F-1332AY	CMF RESISTOR	13.3kΩ,1/4W
R125	QRV141F-1212AY	CMF RESISTOR	12.1kΩ,1/4W
R126	QRV141F-1212AY	CMF RESISTOR	12.1kΩ,1/4W
R127	QRV141F-1212AY	CMF RESISTOR	12.1kΩ,1/4W
R128	QRV141F-1212AY	CMF RESISTOR	12.1kΩ,1/4W
R129	QRV141F-1212AY	CMF RESISTOR	12.1kΩ,1/4W
R130	QRV141F-1212AY	CMF RESISTOR	12.1kΩ,1/4W

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R131	QRV141F-1212AY	CMF RESISTOR	12.1kΩ,1/4W
R132	QRV141F-1212AY	CMF RESISTOR	12.1kΩ,1/4W
R133	QRV141F-1212AY	CMF RESISTOR	12.1kΩ,1/4W
R134	QRV141F-1212AY	CMF RESISTOR	12.1kΩ,1/4W
R135	QRV141F-1212AY	CMF RESISTOR	12.1kΩ,1/4W
R136	QRV141F-1212AY	CMF RESISTOR	12.1kΩ,1/4W
R137	QRV141F-1212AY	CMF RESISTOR	12.1kΩ,1/4W
R138	QRV141F-1212AY	CMF RESISTOR	12.1kΩ,1/4W
R139	QRV141F-1212AY	CMF RESISTOR	12.1kΩ,1/4W
R140	QRV141F-1212AY	CMF RESISTOR	12.1kΩ,1/4W
R141	QRV141F-1332AY	CMF RESISTOR	13.3kΩ,1/4W
R142	QRV141F-1332AY	CMF RESISTOR	13.3kΩ,1/4W
R143	QRV141F-1332AY	CMF RESISTOR	13.3kΩ,1/4W
R144	QRV141F-1332AY	CMF RESISTOR	13.3kΩ,1/4W
R145	QRV141F-1101A	CMF RESISTOR	1.10kΩ,1/4W
R146	QRV141F-1101A	CMF RESISTOR	1.10kΩ,1/4W
R147	QRV141F-1101A	CMF RESISTOR	1.10kΩ,1/4W
R148	QRV141F-1101A	CMF RESISTOR	1.10kΩ,1/4W
R149	QRV141F-1741AY	CMF RESISTOR	1.74kΩ,1/4W
R150	QRV141F-1741AY	CMF RESISTOR	1.74kΩ,1/4W
R151	QRV141F-1741AY	CMF RESISTOR	1.74kΩ,1/4W
R152	QRV141F-1741AY	CMF RESISTOR	1.74kΩ,1/4W
R153	QRV141F-47R5AY	CMF RESISTOR	47.5Ω,1/4W
R154	QRV141F-47R5AY	CMF RESISTOR	47.5Ω,1/4W
R155	QRV141F-47R5AY	CMF RESISTOR	47.5Ω,1/4W
R156	QRV141F-47R5AY	CMF RESISTOR	47.5Ω,1/4W
R157	QRV141F-47R5AY	CMF RESISTOR	47.5Ω,1/4W
R158	QRV141F-47R5AY	CMF RESISTOR	47.5Ω,1/4W
R159	QRV141F-47R5AY	CMF RESISTOR	47.5Ω,1/4W
R160	QRV141F-47R5AY	CMF RESISTOR	47.5Ω,1/4W
R161	QRD161J-103	RESISTOR	10kΩ,1/6W
R162	QRD161J-103	RESISTOR	10kΩ,1/6W
R163	QRD161J-103	RESISTOR	10kΩ,1/6W
R164	QRD161J-103	RESISTOR	10kΩ,1/6W
R165	QRD161J-103	RESISTOR	10kΩ,1/6W
R166	QRD161J-103	RESISTOR	10kΩ,1/6W
R167	QRD161J-103	RESISTOR	10kΩ,1/6W
R168	QRD161J-103	RESISTOR	10kΩ,1/6W
R169	QRD161J-103	RESISTOR	10kΩ,1/6W
C109	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C110	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C111	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C112	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C113	QCYA1HK-103	CAPACITOR	0.01μF,50V
C114	QCYA1HK-103	CAPACITOR	0.01μF,50V
C115	QCYA1HK-103	CAPACITOR	0.01μF,50V
C116	QCYA1HK-103	CAPACITOR	0.01μF,50V
C117	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C118	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C119	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C120	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C121	QCSB1HJ-560	CAPACITOR	56pF,50V
C122	QCSB1HJ-560	CAPACITOR	56pF,50V
C123	QCSB1HJ-560	CAPACITOR	56pF,50V
C124	QCSB1HJ-560	CAPACITOR	56pF,50V

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
C125	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C126	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C127	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C128	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C129	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C130	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C131	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C132	QETC1CM-107ZE	E CAPACITOR	100μF,16V
C133	QENC1EM-107	NP E CAPACITOR	100μF,25V
C134	QENC1EM-107	NP E CAPACITOR	100μF,25V
C135	QENC1EM-107	NP E CAPACITOR	100μF,25V
C136	QENC1EM-107	NP E CAPACITOR	100μF,25V
C137	QENC1EM-107	NP E CAPACITOR	100μF,25V
C138	QENC1EM-107	NP E CAPACITOR	100μF,25V
C139	QENC1EM-107	NP E CAPACITOR	100μF,25V
C140	QENC1EM-107	NP E CAPACITOR	100μF,25V
C145	QETC1CM-476	E CAPACITOR	47μF,16V
C146	QETC1CM-337	E CAPACITOR	330μF,16V
C149	QCTA1CH-180	CAPACITOR	18pF,16V
C150	QCTA1CH-180	CAPACITOR	18pF,16V
C151	QCTA1CH-180	CAPACITOR	18pF,16V
C152	QCTA1CH-180	CAPACITOR	18pF,16V
C153	QCTA1CH-180	CAPACITOR	18pF,16V
C154	QCTA1CH-180	CAPACITOR	18pF,16V
C155	QCTA1CH-180	CAPACITOR	18pF,16V
C156	QCTA1CH-180	CAPACITOR	18pF,16V
CN10	PU58844-3	CONNECTOR	
CN11	PU58844-3	CONNECTOR	
CN12	PU58844-3R	CONNECTOR	
CN13	PU58844-3Y	CONNECTOR	
CN14	PU58844-3	CONNECTOR	
CN15	PU58844-4Y	CONNECTOR	
CN16	PU58844-4R	CONNECTOR	
CN17	PU58844-3	CONNECTOR	
CN18	PU58844-3R	CONNECTOR	
⚠ CP1	ICP-F10	CIRCUIT PROTECTOR	
⚠ CP2	ICP-F10	CIRCUIT PROTECTOR	

AUDIO 6 BOARD ASSY <26>

- AUDIO 6 BOARD ASSY, 525 -

PWBA	PRK20167A1	AUDIO 6 BOARD ASSY	
IC1	M5278L12M	I.C.(M)	
IC2	NJM2068MD	I.C.(M)	
IC3	NJM2068MD	I.C.(M)	

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R9	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R11	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R13	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R15	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R17	QRSA08J-124YN	RESISTOR	120kΩ,1/10W
R18	QRSA08J-124YN	RESISTOR	120kΩ,1/10W
R19	QRSA08J-124YN	RESISTOR	120kΩ,1/10W
R20	QRSA08J-124YN	RESISTOR	120kΩ,1/10W
R21	QRSA08J-123YN	RESISTOR	12kΩ,1/10W
R22	QRSA08J-123YN	RESISTOR	12kΩ,1/10W
R23	QRSA08J-123YN	RESISTOR	12kΩ,1/10W
R24	QRSA08J-123YN	RESISTOR	12kΩ,1/10W
R25	QRSA08J-563YN	RESISTOR	56kΩ,1/10W
R26	QRSA08J-563YN	RESISTOR	56kΩ,1/10W
R27	QRSA08J-563YN	RESISTOR	56kΩ,1/10W
R28	QRSA08J-563YN	RESISTOR	56kΩ,1/10W
C1	QEF81AM-475	TANTAL CAPACITOR	4.7μF,10V
C2	QEF81AM-475	TANTAL CAPACITOR	4.7μF,10V
C3	QEF81AM-475	TANTAL CAPACITOR	4.7μF,10V
C4	QEF81AM-475	TANTAL CAPACITOR	4.7μF,10V
C5	QEF81AM-336	TANTAL CAPACITOR	33μF,10V
C7	QEF81AM-336	TANTAL CAPACITOR	33μF,10V
C9	QCTA1CH-8R0	CAPACITOR	8pF,16V
C10	QCTA1CH-8R0	CAPACITOR	8pF,16V
C11	QCTA1CH-8R0	CAPACITOR	8pF,16V
C12	QCTA1CH-8R0	CAPACITOR	8pF,16V
C13	QEF81CM-226	TANTAL CAPACITOR	22μF,16V
C14	QEF81CM-226	TANTAL CAPACITOR	22μF,16V
C15	QEF81CM-226	TANTAL CAPACITOR	22μF,16V
C16	QEF81CM-226	TANTAL CAPACITOR	22μF,16V
C17	QEF81AM-475	TANTAL CAPACITOR	4.7μF,10V
C18	QEF81AM-475	TANTAL CAPACITOR	4.7μF,10V
C19	QEF81AM-475	TANTAL CAPACITOR	4.7μF,10V
C20	QEF81AM-475	TANTAL CAPACITOR	4.7μF,10V
C35	QEF81VM-105	CHIP TANTAL	1μF,35V
C36	QEF81CM-226	TANTAL CAPACITOR	22μF,16V
C37	QEF81CM-226	TANTAL CAPACITOR	22μF,16V
C38	QEF81CM-226	TANTAL CAPACITOR	22μF,16V
CN1	PU58844-104	CONNECTOR	
CN2	PU58844-104Y	CONNECTOR	
CN3	PU58844-104	CONNECTOR	
CN4	PU58844-104R	CONNECTOR	
CN5	PU58844-103R	CONNECTOR	
CN7	PU58844-103	CONNECTOR	

- AUDIO 6 BOARD ASSY, 522 -

PWBA	PRK20167A1	AUDIO 6 BOARD ASSY

△REF No.	PART No.	PART NAME, DESCRIPTION	
IC1	M5278L12M	I.C.(M)	
IC2	NJM2068MD	I.C.(M)	
IC3	NJM2068MD	I.C.(M)	
R9	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R11	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R13	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R15	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R17	QRSA08J-124YN	RESISTOR	120kΩ,1/10W
R18	QRSA08J-124YN	RESISTOR	120kΩ,1/10W
R19	QRSA08J-124YN	RESISTOR	120kΩ,1/10W
R20	QRSA08J-124YN	RESISTOR	120kΩ,1/10W
R21	QRSA08J-123YN	RESISTOR	12kΩ,1/10W
R22	QRSA08J-123YN	RESISTOR	12kΩ,1/10W
R23	QRSA08J-123YN	RESISTOR	12kΩ,1/10W
R24	QRSA08J-123YN	RESISTOR	12kΩ,1/10W
R25	QRSA08J-563YN	RESISTOR	56kΩ,1/10W
R26	QRSA08J-563YN	RESISTOR	56kΩ,1/10W
R27	QRSA08J-563YN	RESISTOR	56kΩ,1/10W
R28	QRSA08J-563YN	RESISTOR	56kΩ,1/10W
C1	QEF81AM-475	TANTAL CAPACITOR	4.7μF,10V
C2	QEF81AM-475	TANTAL CAPACITOR	4.7μF,10V
C3	QEF81AM-475	TANTAL CAPACITOR	4.7μF,10V
C4	QEF81AM-475	TANTAL CAPACITOR	4.7μF,10V
C5	QEF81AM-336	TANTAL CAPACITOR	33μF,10V
C7	QEF81AM-336	TANTAL CAPACITOR	33μF,10V
C9	QCTA1CH-8R0	CAPACITOR	8pF,16V
C10	QCTA1CH-8R0	CAPACITOR	8pF,16V
C11	QCTA1CH-8R0	CAPACITOR	8pF,16V
C12	QCTA1CH-8R0	CAPACITOR	8pF,16V
C13	QEF81CM-226	TANTAL CAPACITOR	22μF,16V
C14	QEF81CM-226	TANTAL CAPACITOR	22μF,16V
C15	QEF81CM-226	TANTAL CAPACITOR	22μF,16V
C16	QEF81CM-226	TANTAL CAPACITOR	22μF,16V
C17	QEF81AM-475	TANTAL CAPACITOR	4.7μF,10V
C18	QEF81AM-475	TANTAL CAPACITOR	4.7μF,10V
C19	QEF81AM-475	TANTAL CAPACITOR	4.7μF,10V
C20	QEF81AM-475	TANTAL CAPACITOR	4.7μF,10V
C35	QEF81VM-105	CHIP TANTAL	1μF,35V
C36	QEF81CM-226	TANTAL CAPACITOR	22μF,16V
C37	QEF81CM-226	TANTAL CAPACITOR	22μF,16V
C38	QEF81CM-226	TANTAL CAPACITOR	22μF,16V
CN1	PU58844-104	CONNECTOR	
CN2	PU58844-104Y	CONNECTOR	
CN3	PU58844-104	CONNECTOR	
CN4	PU58844-104R	CONNECTOR	
CN5	PU58844-103R	CONNECTOR	
CN7	PU58844-103	CONNECTOR	

JACK BOARD ASSY <27>

#△REF No.	PART No.	PART NAME, DESCRIPTION	

- JACK BOARD ASSY, 525 -

PWBA	PRK20167A3	JACK BOARD ASSY	
IC4	M5216FP	I.C.(M)	
Q1	DTC323TK	TRANSISTOR	
Q2	DTC323TK	TRANSISTOR	
VR5	PGZ01525	V RESISTOR	
R29	QRSA08J-470YN	RESISTOR	47Ω,1/10W
R30	QRSA08J-470YN	RESISTOR	47Ω,1/10W
R31	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R33	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R35	QRSA08J-124YN	RESISTOR	120kΩ,1/10W
R36	QRSA08J-124YN	RESISTOR	120kΩ,1/10W
R37	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R38	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R39	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R40	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R41	QRSA08J-330YN	RESISTOR	33Ω,1/10W
R42	QRSA08J-330YN	RESISTOR	33Ω,1/10W
R43	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R44	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
C21	QEF81AM-475	TANTAL CAPACITOR	4.7μF,10V
C22	QEF81AM-475	TANTAL CAPACITOR	4.7μF,10V
C23	QEF81AM-336	TANTAL CAPACITOR	33μF,10V
C25	QCTA1CH-820	CAPACITOR	82pF,16V
C26	QCTA1CH-820	CAPACITOR	82pF,16V
C27	QEF81CM-226	TANTAL CAPACITOR	22μF,16V
C28	QEF81CM-226	TANTAL CAPACITOR	22μF,16V
C29	QEF81AM-336	TANTAL CAPACITOR	33μF,10V
C30	QEF81AM-336	TANTAL CAPACITOR	33μF,10V
C31	QEF81AM-336	TANTAL CAPACITOR	33μF,10V
C32	QEF81AM-336	TANTAL CAPACITOR	33μF,10V
C33	QCYA1EK-104	CAPACITOR	0.1μF,25V
C34	QCYA1EK-104	CAPACITOR	0.1μF,25V
C39	QEF81CM-226	TANTAL CAPACITOR	22μF,16V
J1	PGZ00725	JACK	
CN6	PU58844-4Y	CONNECTOR	

- JACK BOARD ASSY, 522 -

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
PWBA	PRK20167A3	JACK BOARD ASSY	
IC4	M5216FP	I.C.(M)	
Q1	DTC323TK	TRANSISTOR	
Q2	DTC323TK	TRANSISTOR	
VR5	PGZ01525	V RESISTOR	
R29	QRSA08J-470YN	RESISTOR	47Ω,1/10W
R30	QRSA08J-470YN	RESISTOR	47Ω,1/10W
R31	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R33	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R35	QRSA08J-124YN	RESISTOR	120kΩ,1/10W
R36	QRSA08J-124YN	RESISTOR	120kΩ,1/10W
R37	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R38	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R39	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R40	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R41	QRSA08J-330YN	RESISTOR	33Ω,1/10W
R42	QRSA08J-330YN	RESISTOR	33Ω,1/10W
R43	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R44	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
C21	QEF81AM-475	TANTAL CAPACITOR	4.7μF,10V
C22	QEF81AM-475	TANTAL CAPACITOR	4.7μF,10V
C23	QEF81AM-336	TANTAL CAPACITOR	33μF,10V
C25	QCTA1CH-820	CAPACITOR	82pF,16V
C26	QCTA1CH-820	CAPACITOR	82pF,16V
C27	QEF81CM-226	TANTAL CAPACITOR	22μF,16V
C28	QEF81CM-226	TANTAL CAPACITOR	22μF,16V
C29	QEF81AM-336	TANTAL CAPACITOR	33μF,10V
C30	QEF81AM-336	TANTAL CAPACITOR	33μF,10V
C31	QEF81AM-336	TANTAL CAPACITOR	33μF,10V
C32	QEF81AM-336	TANTAL CAPACITOR	33μF,10V
C33	QCYA1EK-104	CAPACITOR	0.1μF,25V
C34	QCYA1EK-104	CAPACITOR	0.1μF,25V
C39	QEF81CM-226	TANTAL CAPACITOR	22μF,16V
J1	PGZ00725	JACK	
CN6	PU58844-4Y	CONNECTOR	

VR BOARD ASSY <28>

- VR BOARD ASSY, 525 -

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
PWBA	PRK20167A2	VR BOARD ASSY	
R1	QRSA08J-822YN	RESISTOR	8.2kΩ,1/10W
R2	QRSA08J-822YN	RESISTOR	8.2kΩ,1/10W
R3	QRSA08J-822YN	RESISTOR	8.2kΩ,1/10W
R4	QRSA08J-822YN	RESISTOR	8.2kΩ,1/10W
R5	QRSA08J-182YN	RESISTOR	1.8kΩ,1/10W
R6	QRSA08J-182YN	RESISTOR	1.8kΩ,1/10W
R7	QRSA08J-182YN	RESISTOR	1.8kΩ,1/10W
R8	QRSA08J-182YN	RESISTOR	1.8kΩ,1/10W
VR1	PGZ00936	V RESISTOR	
VR2	PGZ00936	V RESISTOR	
VR3	PGZ00936	V RESISTOR	
VR4	PGZ00936	V RESISTOR	
R101	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
CN9	PGZ01081-05	CONNECTOR	

- VR BOARD ASSY, 522 -

PWBA	PRK20167A2	VR BOARD ASSY	
R1	QRSA08J-822YN	RESISTOR	8.2kΩ,1/10W
R2	QRSA08J-822YN	RESISTOR	8.2kΩ,1/10W
R3	QRSA08J-822YN	RESISTOR	8.2kΩ,1/10W
R4	QRSA08J-822YN	RESISTOR	8.2kΩ,1/10W
R5	QRSA08J-182YN	RESISTOR	1.8kΩ,1/10W
R6	QRSA08J-182YN	RESISTOR	1.8kΩ,1/10W
R7	QRSA08J-182YN	RESISTOR	1.8kΩ,1/10W
R8	QRSA08J-182YN	RESISTOR	1.8kΩ,1/10W
VR1	PGZ00936	V RESISTOR	
VR2	PGZ00936	V RESISTOR	
VR3	PGZ00936	V RESISTOR	
VR4	PGZ00936	V RESISTOR	
R101	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
CN9	PGZ01081-05	CONNECTOR	

A/C HEAD BOARD ASSEMBLY <29>

PWB	PGE40328-01-02	A/C HEAD BOARD

⚠REF No.	PART No.	PART NAME, DESCRIPTION
CN1	PU58844-111	CONNECTOR

D/C SERVO BOARD ASSEMBLY <30>

PWBA	PRK10116D-02	D/C SERVO BOARD ASSY, 525
	PRK10116F	D/C SERVO BOARD ASSY, 522
IC1	UPD74HC04G	I.C.(M)
IC2	UPD4053BG	I.C.(M)
IC3	UPD4053BG	I.C.(M)
IC4	BA10393F	I.C.(M)
IC5	SM6430C	I.C.(M)
IC7	TC4W53F	I.C.(M)
IC8	NJM2068MD	I.C.(M)
IC9	NJM2068MD	I.C.(M)
IC10	BA10393F	I.C.(M)
IC11	TC4572BP	I.C.(M)
IC12	UPD4053BG	I.C.(M)
IC13	M5278L12	I.C.(M)
IC14	NJM2068MD	I.C.(M)
IC15	BA10393F	I.C.(M)
IC16	M5278L05	I.C.(M)
IC17	UPD4001BG	I.C.(M)
IC18	TC4S30F	I.C.(M)
IC19	UPD4013BG	I.C.(M)
IC20	UPD78P138GF-010	I.C.(M), 525
IC20	UPD78134GF-062	I.C.(M), 522
IC22	M51957BL	I.C.(M)
IC23	M5278L05	I.C.(M)
IC24	BA10324F	I.C.(M)
	or BA10324AF	I.C.(M)
Q1	2SB643R	TRANSISTOR
Q2	2SA933S(RS)	TRANSISTOR
Q3	2SC1740S(RS)	TRANSISTOR
Q4	2SA933S(RS)	TRANSISTOR
Q5	2SC1740S(RS)	TRANSISTOR
Q6	2SC1740S(RS)	TRANSISTOR
Q7	2SK656	FE TRANSISTOR
Q8	2SC1740S(RS)	TRANSISTOR
Q10	2SC1740S(RS)	TRANSISTOR
Q11	DTC144ES	TRANSISTOR
Q12	DTC144ES	TRANSISTOR
Q13	2SA933S(RS)	TRANSISTOR
Q14	2SC1740S(RS)	TRANSISTOR
Q15	2SC1740S(RS)	TRANSISTOR
Q16	DTC144ES	TRANSISTOR
Q17	2SC1740S(RS)	TRANSISTOR
Q18	2SC1740S(RS)	TRANSISTOR
Q19	DTC144ES	TRANSISTOR
Q20	DTC144ES	TRANSISTOR
Q22	DTC114ES	TRANSISTOR
Q23	2SC1740S(RS)	TRANSISTOR

#⚠REF No.	PART No.	PART NAME, DESCRIPTION
Q24	2SA933S(RS)	TRANSISTOR
Q25	2SC1740S(RS)	TRANSISTOR
Q26	2SD1691(K)	TRANSISTOR
Q28	2SK656	FE TRANSISTOR
Q29	2SC1740S(RS)	TRANSISTOR
Q30	2SC1740S(RS)	TRANSISTOR
Q31	2SA933S(RS)	TRANSISTOR
Q32	DTC144ES	TRANSISTOR
Q33	DTC144ES	TRANSISTOR
Q34	DTC144ES	TRANSISTOR, 525
D1	1SS133	DIODE
D2	1SS99	DIODE
D3	1SS133	DIODE
D5	1SS133	DIODE
D6	1SS133	DIODE
D7	HZ5CLL	ZENER DIODE
D8	HZ5CLL	ZENER DIODE
D9	1SS133	DIODE
D10	1SS133	DIODE
D13	1SS133	DIODE
D14	1SS133	DIODE
D15	1SS133	DIODE
R1	QRD161J-104	RESISTOR 100kΩ,1/6W
R2	QRD161J-272	RESISTOR 2.7kΩ,1/6W
R3	QRD161J-272	RESISTOR 2.7kΩ,1/6W
R4	QRD161J-222	RESISTOR 2.2kΩ,1/6W
R5	QRD161J-272	RESISTOR 2.7kΩ,1/6W
R6	QRD161J-183	RESISTOR 18kΩ,1/6W
R7	QRD161J-222	RESISTOR 2.2kΩ,1/6W
R8	QRD161J-103	RESISTOR 10kΩ,1/6W
R9	QRD161J-222	RESISTOR 2.2kΩ,1/6W
R10	QRD161J-101	RESISTOR 100Ω,1/6W
R11	QRD161J-222	RESISTOR 2.2kΩ,1/6W
R12	QRD161J-222	RESISTOR 2.2kΩ,1/6W
R13	QRD161J-272	RESISTOR 2.7kΩ,1/6W
R14	QRD161J-102	RESISTOR 1kΩ,1/6W
R15	QRD161J-561	RESISTOR 560Ω,1/6W
R16	QRD161J-103	RESISTOR 10kΩ,1/6W
R17	QRV141F-1822AY	CMF RESISTOR 18.2kΩ,1/4W
R18	QRV141F-3403AY	CMF RESISTOR 340kΩ,1/4W
R19	QRV141F-3403AY	CMF RESISTOR 340kΩ,1/4W
R20	QRV141F-3403AY	CMF RESISTOR 340kΩ,1/4W
R21	QRD161J-222	RESISTOR, 525 2.2kΩ,1/6W
R22	QRD161J-224	RESISTOR 220kΩ,1/6W
R23	QRD161J-222	RESISTOR 2.2kΩ,1/6W
R24	QRD161J-222	RESISTOR 2.2kΩ,1/6W
R25	QRD161J-224	RESISTOR 220kΩ,1/6W
R26	QRD161J-392	RESISTOR, 525 3.9kΩ,1/6W
R27	QRD161J-103	RESISTOR, 525 10kΩ,1/6W
R28	QRD161J-103	RESISTOR, 525 10kΩ,1/6W
R29	QRD161J-224	RESISTOR, 525 220kΩ,1/6W
R30	QRD161J-103	RESISTOR, 525 10kΩ,1/6W
R31	QRD161J-223	RESISTOR 22kΩ,1/6W
R32	QRD161J-102	RESISTOR 1kΩ,1/6W

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R33	QRD161J-224	RESISTOR	220kΩ ,1／6W
R34	QRD161J-222	RESISTOR	2.2kΩ ,1／6W
R35	QRD161J-100	RESISTOR	10Ω ,1／6W
R36	QRD161J-475	RESISTOR	4.7MΩ ,1／6W
R37	QRD161J-154	RESISTOR	150kΩ ,1／6W
R39	QRV141F-3403AY	CMF RESISTOR	340kΩ ,1／4W
R40	QRV141F-1822AY	CMF RESISTOR	18.2kΩ ,1／4W
R41	QRV141F-3403AY	CMF RESISTOR	340kΩ ,1／4W
R42	QRV141F-3403AY	CMF RESISTOR	340kΩ ,1／4W
R43	QRD161J-222	RESISTOR, 525	2.2kΩ ,1／6W
R44	QRD161J-102	RESISTOR	1kΩ ,1／6W
R45	QRD161J-102	RESISTOR	1kΩ ,1／6W
R46	QRD161J-102	RESISTOR, 525	1kΩ ,1／6W
R47	QRD161J-223	RESISTOR	22kΩ ,1／6W
R48	QRD161J-561	RESISTOR	560Ω ,1／6W
R49	QRD161J-102	RESISTOR	1kΩ ,1／6W
R50	QRD161J-824	RESISTOR	820kΩ ,1／6W
R51	QRD161J-185	RESISTOR	1.8MΩ ,1／6W
R52	QRD161J-102	RESISTOR	1kΩ ,1／6W
R53	QRD161J-123	RESISTOR	12kΩ ,1／6W
R54	QRD161J-102	RESISTOR	1kΩ ,1／6W
R55	QRD161J-393	RESISTOR	39kΩ ,1／6W
R57	QRD161J-105	RESISTOR	1MΩ ,1／6W
R58	QRD161J-393	RESISTOR	39kΩ ,1／6W
R59	QRD161J-103	RESISTOR	10kΩ ,1／6W
R60	QRD161J-103	RESISTOR	10kΩ ,1／6W
R61	QRD161J-102	RESISTOR	1kΩ ,1／6W
R62	QRD161J-183	RESISTOR	18kΩ ,1／6W
R63	QRD161J-100	RESISTOR	10Ω ,1／6W
R64	QRD161J-222	RESISTOR	2.2kΩ ,1／6W
R65	QRD161J-152	RESISTOR	1.5kΩ ,1／6W
R66	QRD161J-683	RESISTOR	68kΩ ,1／6W
R67	QRD161J-473	RESISTOR	47kΩ ,1／6W
R68	QRD161J-103	RESISTOR	10kΩ ,1／6W
R69	QRD161J-182	RESISTOR	1.8kΩ ,1／6W
R70	QRD161J-103	RESISTOR	10kΩ ,1／6W
R71	QRD161J-103	RESISTOR	10kΩ ,1／6W
R72	QRD161J-472	RESISTOR	4.7kΩ ,1／6W
R73	QRD161J-472	RESISTOR	4.7kΩ ,1／6W
R74	QRD161J-103	RESISTOR	10kΩ ,1／6W
R75	QRD161J-104	RESISTOR	100kΩ ,1／6W
R76	QRD161J-104	RESISTOR	100kΩ ,1／6W
R77	QRD161J-472	RESISTOR	4.7kΩ ,1／6W
R78	QRD161J-473	RESISTOR	47kΩ ,1／6W
R79	QRD161J-103	RESISTOR	10kΩ ,1／6W
R80	QRD161J-103	RESISTOR	10kΩ ,1／6W
R81	QRD161J-222	RESISTOR	2.2kΩ ,1／6W
R82	QRV141F-2211AY	CMF RESISTOR	2.21kΩ ,1／4W
R83	QVZ3521-101	V RESISTOR	100Ω
R84	QRV141F-2211AY	CMF RESISTOR	2.21kΩ ,1／4W
R85	QRD161J-152	RESISTOR	1.5kΩ ,1／6W
R86	QRD161J-684	RESISTOR	680kΩ ,1／6W
R87	QRD161J-333	RESISTOR	33kΩ ,1／6W
R88	QRD161J-222	RESISTOR	2.2kΩ ,1／6W
R89	QRD161J-104	RESISTOR	100kΩ ,1／6W
R90	QRD161J-222	RESISTOR	2.2kΩ ,1／6W
R91	QRD161J-222	RESISTOR	2.2kΩ ,1／6W

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R92	QRV141F-2211AY	CMF RESISTOR	2.21kΩ ,1／4W
R93	QVZ3521-101	V RESISTOR	100Ω
R94	QRV141F-2211AY	CMF RESISTOR	2.21kΩ ,1／4W
R95	QRD161J-562	RESISTOR	5.6kΩ ,1／6W
R96	QRD161J-684	RESISTOR	680kΩ ,1／6W
R97	QRD161J-103	RESISTOR	10kΩ ,1／6W
R98	QRD161J-222	RESISTOR	2.2kΩ ,1／6W
R99	QRD161J-222	RESISTOR	2.2kΩ ,1／6W
R100	QRD161J-104	RESISTOR	100kΩ ,1／6W
R101	QRD161J-222	RESISTOR	2.2kΩ ,1／6W
R102	QRD161J-473	RESISTOR	47kΩ ,1／6W
R103	QRD161J-103	RESISTOR	10kΩ ,1／6W
R104	QRD161J-473	RESISTOR	47kΩ ,1／6W
R105	QRD161J-472	RESISTOR	4.7kΩ ,1／6W
R106	QRD161J-222	RESISTOR	2.2kΩ ,1／6W
R107	QRD161J-105	RESISTOR	1MΩ ,1／6W
R108	QRD161J-103	RESISTOR	10kΩ ,1／6W
R109	QRD161J-104	RESISTOR	100kΩ ,1／6W
R110	QRD161J-103	RESISTOR	10kΩ ,1／6W
R112	QRD161J-102	RESISTOR	1kΩ ,1／6W
R118	QRD161J-102	RESISTOR	1kΩ ,1／6W
R119	QRD161J-102	RESISTOR	1kΩ ,1／6W
R120	QRD161J-102	RESISTOR	1kΩ ,1／6W
R121	QRD161J-102	RESISTOR	1kΩ ,1／6W
R122	QRD161J-102	RESISTOR	1kΩ ,1／6W
R123	QRD161J-102	RESISTOR	1kΩ ,1／6W
R124	QRD161J-272	RESISTOR	2.7kΩ ,1／6W
R125	QRD161J-103	RESISTOR	10kΩ ,1／6W
R126	QRD161J-103	RESISTOR	10kΩ ,1／6W
R127	QRD161J-222	RESISTOR	2.2kΩ ,1／6W
R128	QRD161J-153	RESISTOR	15kΩ ,1／6W
R129	QRD161J-472	RESISTOR	4.7kΩ ,1／6W
R130	QRD161J-153	RESISTOR	15kΩ ,1／6W
R131	QRD161J-222	RESISTOR	2.2kΩ ,1／6W
R132	QRD161J-273	RESISTOR	27kΩ ,1／6W
R133	QRD161J-183	RESISTOR	18kΩ ,1／6W
R134	QRD161J-681	RESISTOR	680Ω ,1／6W
R135	QRD161J-271	RESISTOR	270Ω ,1／6W
R136	QRD161J-271	RESISTOR	270Ω ,1／6W
R137	QRD161J-271	RESISTOR	270Ω ,1／6W
R138	QRD161J-102	RESISTOR	1kΩ ,1／6W
R139	QRD161J-271	RESISTOR	270Ω ,1／6W
R140	QRD161J-102	RESISTOR	1kΩ ,1／6W
R141	QRD161J-102	RESISTOR	1kΩ ,1／6W
R142	QRD161J-102	RESISTOR	1kΩ ,1／6W
R143	QRD161J-224	RESISTOR	220kΩ ,1／6W
R144	QRD161J-224	RESISTOR	220kΩ ,1／6W
R145	QRD161J-103	RESISTOR	10kΩ ,1／6W
R146	QVZ3521-223	V RESISTOR	22kΩ
R147	QVZ3521-223	V RESISTOR	22kΩ
R148	QRD161J-222	RESISTOR	2.2kΩ ,1／6W
R149	QRD161J-822	RESISTOR	8.2kΩ ,1／6W
R150	QRD161J-103	RESISTOR	10kΩ ,1／6W
R151	QRD161J-104	RESISTOR	100kΩ ,1／6W
R152	QRD161J-154	RESISTOR	150kΩ ,1／6W
R153	QRD161J-102	RESISTOR, 525	1kΩ ,1／6W
R154	QRD161J-104	RESISTOR	100kΩ ,1／6W

⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R155	QRD161J-103	RESISTOR	10kΩ ,1／6W
R156	QRD161J-103	RESISTOR	10kΩ ,1／6W
R157	QRD161J-472	RESISTOR	4.7kΩ ,1／6W
R158	QRD161J-222	RESISTOR	2.2kΩ ,1／6W
R159	QRD161J-104	RESISTOR	100kΩ ,1／6W
R160	QRD161J-473	RESISTOR	47kΩ ,1／6W
R161	QRD161J-473	RESISTOR	47kΩ ,1／6W
R162	QRD161J-184	RESISTOR	180kΩ ,1／6W
R163	QRD161J-103	RESISTOR	10kΩ ,1／6W
R164	QRD161J-103	RESISTOR	10kΩ ,1／6W
R165	QRD161J-221	RESISTOR	220Ω ,1／6W
R166	QRD161J-272	RESISTOR	2.7kΩ ,1／6W
R167	QRD161J-103	RESISTOR	10kΩ ,1／6W
R168	QRD161J-102	RESISTOR, 525	1kΩ ,1／6W
R169	QRD161J-102	RESISTOR, 525	1kΩ ,1／6W
R170	QRD161J-102	RESISTOR, 525	1kΩ ,1／6W
R171	QRD161J-102	RESISTOR, 525	1kΩ ,1／6W
R172	QRD161J-102	RESISTOR, 525	1kΩ ,1／6W
R173	QRD161J-102	RESISTOR	1kΩ ,1／6W
R174	QRD161J-104	RESISTOR	100kΩ ,1／6W
R175	QRD161J-152	RESISTOR	1.5kΩ ,1／6W
R176	QRD161J-224	RESISTOR	220kΩ ,1／6W
R177	QRD161J-224	RESISTOR, 525	220kΩ ,1／6W
R178	QRD161J-104	RESISTOR	100kΩ ,1／6W
R179	QRD161J-104	RESISTOR	100kΩ ,1／6W
R180	QRD161J-824	RESISTOR	820kΩ ,1／6W
R181	QRD161J-104	RESISTOR	100kΩ ,1／6W
R182	QRD161J-272	RESISTOR	2.7kΩ ,1／6W
R183	QRD161J-123	RESISTOR	12kΩ ,1／6W
R184	QRD161J-561	RESISTOR	560Ω ,1／6W
R185	QVZ3521-103	V RESISTOR	10kΩ
R186	QRD161J-102	RESISTOR	1kΩ ,1／6W
R189	QRD161J-102	RESISTOR, 525	1kΩ ,1／6W
R191	QRD161J-103	RESISTOR, 525	10kΩ ,1／6W
R192	QRD161J-102	RESISTOR, 525	1kΩ ,1／6W
R193	QRD161J-102	RESISTOR, 522	1kΩ ,1／6W
C1	QENC1CM-226	NP E CAPACITOR	22μF,16V
C2	QETC1CM-106	E CAPACITOR	10μF,16V
C3	QETC1CM-476	E CAPACITOR	47μF,16V
C4	QCTA1CH-390	CAPACITOR	39pF,16V
C5	QCTA1CH-121	CAPACITOR	120pF,16V
C6	QFN31HJ-154	M CAPACITOR	0.15μF,50V
C7	QFP42AF-102M	PP CAPACITOR	0.001μF,100V
C8	QFN31HJ-333	M CAPACITOR, 525	0.033μF,50V
C9	QETC1HM-105	E CAPACITOR	1μF,50V
C10	QETC1HM-225	E CAPACITOR	2.2μF,50V
C11	QETC1HM-105	E CAPACITOR	1μF,50V
C12	QETC1HM-225	E CAPACITOR	2.2μF,50V
C13	QCTA1CH-390	CAPACITOR	39pF,16V
C14	QCTA1CH-390	CAPACITOR	39pF,16V
C15	QFP42AF-102M	PP CAPACITOR	0.001μF,100V
C16	QCYA1HK-102	CAPACITOR	0.001μF,50V
C17	QCS31HJ-271	CAPACITOR	270pF,50V
C18	QFN31HJ-102	M CAPACITOR	0.001μF,50V
C19	QCTA1CH-331	CAPACITOR	330pF,16V

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
C21	QENC1CM-336	NP E CAPACITOR	33μF,16V
C22	QETC1CM-227	E CAPACITOR	220μF,16V
C23	QFN31HJ-104	M CAPACITOR	0.1μF,50V
C24	QCYA1HK-223	CAPACITOR	0.022μF,50V
C25	QETC1EM-476	E CAPACITOR	47μF,25V
C26	QETC1CM-476	E CAPACITOR	47μF,16V
C27	QCYA1HK-223	CAPACITOR	0.022μF,50V
C28	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C29	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C30	QCTA1CH-100	CAPACITOR	10pF,16V
C32	QETC0JM-476	E CAPACITOR	47μF,6.3V
C33	QCYA1HK-223	CAPACITOR	0.022μF,50V
C34	QETC1CM-476	E CAPACITOR	47μF,16V
C35	QCYA1HK-223	CAPACITOR	0.022μF,50V
C36	QCTA1CH-100	CAPACITOR	10pF,16V
C37	QFN31HJ-104	M CAPACITOR	0.1μF,50V
C38	QCTA1CH-100	CAPACITOR	10pF,16V
C40	QCTA1CH-101	CAPACITOR	100pF,16V
C41	QETC1CM-106	E CAPACITOR	10μF,16V
C42	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C43	QCYA1HK-103	CAPACITOR	0.01μF,50V
C44	QCYA1HK-223	CAPACITOR	0.022μF,50V
C45	QCTA1CH-270	CAPACITOR	27pF,16V
C46	QCTA1CH-470	CAPACITOR	47pF,16V
C47	QETC1HM-104	E CAPACITOR	0.1μF,50V
C48	QCYA1HK-103	CAPACITOR	0.01μF,50V
C49	QCYA1HK-103	CAPACITOR	0.01μF,50V
C50	QCYA1HK-103	CAPACITOR	0.01μF,50V
C51	QCYA1HK-223	CAPACITOR	0.022μF,50V
C52	QETC0JM-476	E CAPACITOR	47μF,6.3V
C53	QETC1CM-476	E CAPACITOR	47μF,16V
C54	QCYA1HK-223	CAPACITOR	0.022μF,50V
C55	QCYA1HK-223	CAPACITOR	0.022μF,50V
C56	QCYA1HK-223	CAPACITOR	0.022μF,50V
C57	QCYA1HK-223	CAPACITOR	0.022μF,50V
C58	QFN31HJ-473	M CAPACITOR	0.047μF,50V
C59	QFN31HJ-273	M CAPACITOR	0.027μF,50V
C61	QETC1HM-105	E CAPACITOR	1μF,50V
C62	QFN31HJ-472	M CAPACITOR	0.0047μF,50V
C63	QFN31HJ-472	M CAPACITOR	0.0047μF,50V
C64	QETC1CM-476	E CAPACITOR	47μF,16V
C65	QCYA1HK-223	CAPACITOR	0.022μF,50V
C66	QCTA1CH-101	CAPACITOR	100pF,16V
C67	QETC1HM-105	E CAPACITOR	1μF,50V
C68	QCYA1HK-223	CAPACITOR	0.022μF,50V
C69	QCYA1HK-223	CAPACITOR	0.022μF,50V
C70	QCYA1HK-223	CAPACITOR	0.022μF,50V
C71	QCYA1HK-223	CAPACITOR	0.022μF,50V
C72	QCYA1HK-223	CAPACITOR	0.022μF,50V
C73	QCYA1HK-223	CAPACITOR	0.022μF,50V
C74	QCYA1HK-223	CAPACITOR	0.022μF,50V
C75	QCYA1HK-223	CAPACITOR	0.022μF,50V
C76	QCYA1HK-223	CAPACITOR	0.022μF,50V
C77	QCYA1HK-223	CAPACITOR	0.022μF,50V
C78	QCYA1HK-223	CAPACITOR	0.022μF,50V
C79	QCYA1HK-223	CAPACITOR	0.022μF,50V
C80	QCYA1HK-223	CAPACITOR	0.022μF,50V

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
	C81	QCYA1HK-223	CAPACITOR	0.022μF,50V
	C82	QCYA1HK-223	CAPACITOR	0.022μF,50V
	C83	QCYA1HK-223	CAPACITOR	0.022μF,50V
	C84	QCYA1HK-223	CAPACITOR	0.022μF,50V
	C85	QCYA1HK-223	CAPACITOR	0.022μF,50V
	C86	QCYA1HK-223	CAPACITOR	0.022μF,50V
	C87	QCYA1HK-223	CAPACITOR	0.022μF,50V
	C88	QCYA1HK-223	CAPACITOR	0.022μF,50V
	L1	PU48530-471J	COIL	470μH
	L2	PU50277	INDUCTOR	
⚠	X1	PU47220	CRYSTAL RESONATOR	
⚠	X2	PEVB0335	CRYSTAL RESONATOR	
	HS1	PRD44139	HEAT SINK	
	SCW1	SPSP3008Z	SCREW	
	SCW2	DPSP3008Z	SCREW, ×2	
	SPC1	PGZ00150	TR SPACER	
	TP1	PU54983	TEST PIN, ×17(522) ×15(525)	
	CN1	PU58844-2	CONNECTOR	
	CN2	PU58844-2R	CONNECTOR	
	CN3	PU58844-5	CONNECTOR	
	CN4	PU58844-2R	CONNECTOR	
	CN5	PU58844-3Y	CONNECTOR	
	CN6	PU58844-4	CONNECTOR	
	CN7	PU58844-2	CONNECTOR	
	CN8	PU58844-2Y	CONNECTOR	
	CN9	PU58844-4	CONNECTOR	
	CN10	PU58844-2Y	CONNECTOR	
	CN11	PU58844-3	CONNECTOR	
	CN12	PU58798-10	CONNECTOR	
	CN13	PU58844-6	CONNECTOR	
	CN14	PU58844-5R	CONNECTOR	
	CN15	PU58844-5	CONNECTOR	
	CN16	PU58844-9	CONNECTOR, 525	
	CN17	PU58844-8	CONNECTOR	
	CN18	PU58844-2R	CONNECTOR	
	CN19	PU58844-4R	CONNECTOR	
	CN20	PU58844-7	CONNECTOR	

M.CTL/R.SERVO BOARD ASSEMBLY <31>

	PWBA	PRK10059C-03	M.CTL/R.SERVO BOARD ASSY, 525
		PRK10059B-03	M.CTL/R.SERVO BOARD ASSY, 522

#⚠REF No.	PART No.	PART NAME, DESCRIPTION
IC1	PGD30241-11-10	I.C.(M), 525
	or PGD30241C-11-10	I.C.(M), 525
IC1	PGD30241-10-7	I.C.(M), 522
	or PGD30241C-10-7	I.C.(M), 522
IC2	CXP80116-706Q	I.C.(M)
IC3	TC74HC00AF	I.C.(M)
IC4	M6M80011AP	I.C.(M)
IC5	TMP82C255AN-2	I.C.(M)
IC6	TA79L012P	I.C.(M)
IC7	M5278D05	I.C.(M)
IC8	TA78L012AP	I.C.(M)
IC9	TA8405S	I.C.(M)
IC10	BA10358F	I.C.(M)
IC11	BA10358F	I.C.(M)
IC13	NJM2068MD	I.C.(M)
IC17	TC4066BF	I.C.(M)
IC18	BA10358F	I.C.(M)
IC19	TC4526BF	I.C.(M)
IC20	TC4526BF	I.C.(M)
IC21	TC4013BF	I.C.(M)
IC22	BA6993F	I.C.(M)
IC23	BA6993F	I.C.(M)
IC24	NJM2068MD	I.C.(M)
IC25	NJM2068MD	I.C.(M)
IC26	NJM2068MD	I.C.(M)
IC27	NJM2068MD	I.C.(M)
IC28	BA6993F	I.C.(M)
IC29	AN3834K	I.C.(M)
IC30	AN3834K	I.C.(M)
IC31	BA222	I.C.(M)
IC33	M51957BL	I.C.(M)
IC34	M51957BL	I.C.(M)
Q1	2SB907	TRANSISTOR
Q2	2SA1020(Y)	TRANSISTOR
Q3	2SD1468S(SE)	TRANSISTOR
Q4	2SA1020(Y)	TRANSISTOR
Q5	DTC124ES	TRANSISTOR
Q6	2SB1151(K)	TRANSISTOR
Q7	2SD1468S(SE)	TRANSISTOR
Q8	2SB1151(K)	TRANSISTOR
Q9	2SD1468S(SE)	TRANSISTOR
Q10	2SD1468S(SE)	TRANSISTOR
Q11	2SD1468S(SE)	TRANSISTOR
Q12	DTA124ES	TRANSISTOR
Q13	DTC124ES	TRANSISTOR
Q14	DTC124ES	TRANSISTOR
Q15	DTC124ES	TRANSISTOR
Q16	2SA1020(Y)	TRANSISTOR
Q17	DTA124ES	TRANSISTOR
Q18	DTA124ES	TRANSISTOR
Q19	DTA124ES	TRANSISTOR
Q21	DTC124ES	TRANSISTOR
Q22	DTC124ES	TRANSISTOR
Q23	2SB907	TRANSISTOR
Q24	2SA1020(Y)	TRANSISTOR

REF No.	PART No.	PART NAME, DESCRIPTION	
D2	1SS133	DIODE	
D3	1SS133	DIODE	
D4	RK14LF-B2	DIODE	
D5	1SS133	DIODE	
D6	1SS133	DIODE	
D9	1SS133	DIODE	
D10	1SS133	DIODE	
D11	1SS133	DIODE	
D12	1SS133	DIODE	
D13	1SS133	DIODE	
D14	11ES2	DIODE	
D15	RK14LF-B2	DIODE	
D16	RK14LF-B2	DIODE	
D17	1SS133	DIODE	
D19	1SS133	DIODE	
D20	1SS133	DIODE	
D21	1SS133	DIODE	
D22	11ES2	DIODE	
D23	1SS133	DIODE	
D24	1SS133	DIODE	
D25	RD5.1ES-T1B1	ZENER DIODE	
D26	RD5.1ES-T1B1	ZENER DIODE	
D27	RD5.1ES-T1B1	ZENER DIODE	
R1	QRD161J-102	RESISTOR	1kΩ,1/6W
R2	QRD161J-104	RESISTOR	100kΩ,1/6W
R3	QRD161J-104	RESISTOR	100kΩ,1/6W
R4	QRD161J-104	RESISTOR	100kΩ,1/6W
R5	QRD161J-104	RESISTOR	100kΩ,1/6W
R6	QRD161J-563	RESISTOR	56kΩ,1/6W
R7	QRD161J-563	RESISTOR	56kΩ,1/6W
R8	QRD161J-104	RESISTOR	100kΩ,1/6W
R9	QRD161J-104	RESISTOR	100kΩ,1/6W
R11	QRD161J-121	RESISTOR	120Ω,1/6W
R12	QRD161J-121	RESISTOR	120Ω,1/6W
R13	QRD161J-121	RESISTOR	120Ω,1/6W
R14	QRD161J-121	RESISTOR	120Ω,1/6W
R15	QRD161J-121	RESISTOR	120Ω,1/6W
R16	QRD161J-121	RESISTOR	120Ω,1/6W
R17	QRD161J-121	RESISTOR	120Ω,1/6W
R18	QRD161J-472	RESISTOR	4.7kΩ,1/6W
R19	QRD161J-472	RESISTOR	4.7kΩ,1/6W
R20	QRD161J-121	RESISTOR	120Ω,1/6W
R21	QRD161J-154	RESISTOR	150kΩ,1/6W
R22	QRD161J-0R0	RESISTOR	0Ω,1/6W
R23	QRD161J-0R0	RESISTOR	0Ω,1/6W
R24	QRD161J-0R0	RESISTOR	0Ω,1/6W
R25	QRD161J-121	RESISTOR	120Ω,1/6W
R26	QRD161J-121	RESISTOR	120Ω,1/6W
R27	QRD161J-0R0	RESISTOR	0Ω,1/6W
R28	QRD161J-121	RESISTOR	120Ω,1/6W
R29	QRD161J-0R0	RESISTOR	0Ω,1/6W
R30	QRD161J-0R0	RESISTOR	0Ω,1/6W
R31	QRD161J-0R0	RESISTOR	0Ω,1/6W
R32	QRD161J-0R0	RESISTOR	0Ω,1/6W
R33	QRD161J-0R0	RESISTOR	0Ω,1/6W

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	R35	QRD161J-0R0	RESISTOR	0Ω,1/6W
	R36	QRD161J-103	RESISTOR	10kΩ,1/6W
	R37	QRD161J-103	RESISTOR	10kΩ,1/6W
	R38	QRD161J-103	RESISTOR	10kΩ,1/6W
	R39	QRD161J-103	RESISTOR	10kΩ,1/6W
	R40	QRD161J-103	RESISTOR	10kΩ,1/6W
	R41	QRD161J-103	RESISTOR	10kΩ,1/6W
	R42	QRD161J-103	RESISTOR	10kΩ,1/6W
	R43	QRD161J-104	RESISTOR	100kΩ,1/6W
	R44	QRD161J-104	RESISTOR	100kΩ,1/6W
	R45	QRD161J-104	RESISTOR	100kΩ,1/6W
	R46	QRD161J-104	RESISTOR	100kΩ,1/6W
	R47	QRD161J-103	RESISTOR	10kΩ,1/6W
	R48	QRD161J-103	RESISTOR	10kΩ,1/6W
	R49	QRD161J-103	RESISTOR	10kΩ,1/6W
	R50	QRD161J-103	RESISTOR	10kΩ,1/6W
	R51	QRD161J-103	RESISTOR	10kΩ,1/6W
	R52	QRD161J-472	RESISTOR	4.7kΩ,1/6W
	R53	QRD161J-472	RESISTOR	4.7kΩ,1/6W
	R54	QRD161J-472	RESISTOR	4.7kΩ,1/6W
	R55	QRD161J-472	RESISTOR	4.7kΩ,1/6W
	R56	QRD161J-472	RESISTOR	4.7kΩ,1/6W
	R57	QRD161J-104	RESISTOR	100kΩ,1/6W
	R58	QRD161J-472	RESISTOR	4.7kΩ,1/6W
	R59	QRD161J-472	RESISTOR	4.7kΩ,1/6W
	R60	QRD161J-102	RESISTOR	1kΩ,1/6W
⚠	R61	QRG019J-561S	OMF RESISTOR	560Ω,1W
	R63	QRD161J-103	RESISTOR	10kΩ,1/6W
	R64	QRD161J-103	RESISTOR	10kΩ,1/6W
	R65	QRD161J-103	RESISTOR	10kΩ,1/6W
	R66	QRD161J-103	RESISTOR	10kΩ,1/6W
	R73	QRD161J-103	RESISTOR	10kΩ,1/6W
	R74	QRV141F-1003AY	CMF RESISTOR	100kΩ,1/4W
	R75	QRV141F-1002AY	CMF RESISTOR	10.0kΩ,1/4W
	R76	QRV141F-2213AY	CMF RESISTOR	221kΩ,1/4W
	R77	QRD161J-0R0	RESISTOR	0Ω,1/6W
	R78	QRD161J-103	RESISTOR	10kΩ,1/6W
	R79	QRV141F-2213AY	CMF RESISTOR	221kΩ,1/4W
	R80	QRV141F-1002AY	CMF RESISTOR	10.0kΩ,1/4W
	R81	QRV141F-1501AY	CMF RESISTOR	1.50kΩ,1/4W
	R93	QRD161J-563	RESISTOR	56kΩ,1/6W
	R94	QRD161J-563	RESISTOR	56kΩ,1/6W
	R95	QRD161J-104	RESISTOR	100kΩ,1/6W
	R96	QRD161J-104	RESISTOR	100kΩ,1/6W
	R97	QRD161J-103	RESISTOR	10kΩ,1/6W
	R98	QRD161J-103	RESISTOR	10kΩ,1/6W
	R101	QRD161J-222	RESISTOR	2.2kΩ,1/6W
	R102	QRD161J-222	RESISTOR	2.2kΩ,1/6W
	R103	QRD161J-222	RESISTOR	2.2kΩ,1/6W
	R104	QRD161J-222	RESISTOR	2.2kΩ,1/6W
	R105	QRD161J-223	RESISTOR	22kΩ,1/6W
	R106	QRD161J-223	RESISTOR	22kΩ,1/6W
	R107	QRD161J-223	RESISTOR	22kΩ,1/6W
	R108	QRD161J-223	RESISTOR	22kΩ,1/6W
	R109	QRD161J-102	RESISTOR	1kΩ,1/6W
	R110	QRD161J-102	RESISTOR	1kΩ,1/6W

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R111	QRD161J-102	RESISTOR	1kΩ,1/6W
R112	QRD161J-102	RESISTOR	1kΩ,1/6W
R113	QRD161J-102	RESISTOR	1kΩ,1/6W
R114	QRD161J-102	RESISTOR	1kΩ,1/6W
R115	QRD161J-102	RESISTOR	1kΩ,1/6W
R116	QRD161J-102	RESISTOR	1kΩ,1/6W
R117	QRD161J-333	RESISTOR	33kΩ,1/6W
R118	QRD161J-474	RESISTOR	470kΩ,1/6W
R119	QRD161J-333	RESISTOR	33kΩ,1/6W
R120	QRD161J-474	RESISTOR	470kΩ,1/6W
R121	QRD161J-102	RESISTOR	1kΩ,1/6W
R122	QRD161J-473	RESISTOR	47kΩ,1/6W
R123	QRD161J-102	RESISTOR	1kΩ,1/6W
R124	QRD161J-473	RESISTOR	47kΩ,1/6W
R125	QRD161J-103	RESISTOR	10kΩ,1/6W
R126	QRD161J-103	RESISTOR	10kΩ,1/6W
R127	QRV141F-4301AY	RESISTOR	4.30kΩ,1/4W
R128	QRD161J-223	RESISTOR	22kΩ,1/6W
⚠ R129	QRX029J-R56A	MF RESISTOR	0.56Ω,2W
R130	QRD161J-221	RESISTOR	220Ω,1/6W
R131	QRD161J-221	RESISTOR	220Ω,1/6W
R132	QRV141F-4301AY	RESISTOR	4.30kΩ,1/4W
R133	QRD161J-223	RESISTOR	22kΩ,1/6W
⚠ R134	QRX029J-R56A	MF RESISTOR	0.56Ω,2W
R135	QRD161J-221	RESISTOR	220Ω,1/6W
R136	QRD161J-221	RESISTOR	220Ω,1/6W
R137	QRD161J-331	RESISTOR	330Ω,1/6W
R138	QRD161J-472	RESISTOR	4.7kΩ,1/6W
R139	QRD161J-102	RESISTOR	1kΩ,1/6W
R140	QRD161J-472	RESISTOR	4.7kΩ,1/6W
R141	QRD161J-472	RESISTOR	4.7kΩ,1/6W
R142	QRD161J-472	RESISTOR	4.7kΩ,1/6W
⚠ R143	QRF036J-560	OMF RESISTOR	56Ω,3W
R144	QRD161J-221	RESISTOR	220Ω,1/6W
R145	QRD161J-221	RESISTOR	220Ω,1/6W
⚠ R146	QRG019J-561S	OMF RESISTOR	560Ω,1W
⚠ R147	QRG019J-561S	OMF RESISTOR	560Ω,1W
R148	QRD161J-102	RESISTOR	1kΩ,1/6W
R149	QRD161J-102	RESISTOR	1kΩ,1/6W
R150	QRD161J-104	RESISTOR	100kΩ,1/6W
R151	QRD161J-104	RESISTOR	100kΩ,1/6W
R152	QRD161J-102	RESISTOR	1kΩ,1/6W
R153	QRD161J-102	RESISTOR	1kΩ,1/6W
R154	QRD161J-472	RESISTOR	4.7kΩ,1/6W
R155	QRD161J-121	RESISTOR	120Ω,1/6W
R156	QRD161J-103	RESISTOR	10kΩ,1/6W
R157	QRD161J-222	RESISTOR	2.2kΩ,1/6W
R158	QRD161J-473	RESISTOR	47kΩ,1/6W
R159	QRD161J-223	RESISTOR	22kΩ,1/6W
R160	QRD161J-104	RESISTOR	100kΩ,1/6W
R161	QRD161J-103	RESISTOR	10kΩ,1/6W
R164	QRD161J-103	RESISTOR	10kΩ,1/6W
R165	QRD161J-104	RESISTOR	100kΩ,1/6W
R166	QRD161J-103	RESISTOR	10kΩ,1/6W
R167	QRD161J-103	RESISTOR	10kΩ,1/6W
R168	QRD161J-103	RESISTOR	10kΩ,1/6W
R169	QRD161J-103	RESISTOR	10kΩ,1/6W

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R170	QRD161J-104	RESISTOR	100kΩ,1/6W
R171	QRD161J-104	RESISTOR	100kΩ,1/6W
R172	QRD161J-104	RESISTOR	100kΩ,1/6W
R173	QRD161J-104	RESISTOR	100kΩ,1/6W
R174	QRD161J-104	RESISTOR	100kΩ,1/6W
R175	QRD161J-103	RESISTOR	10kΩ,1/6W
R176	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
R177	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
R181	QRD161J-0R0	RESISTOR	0Ω,1/6W
R182	QRD161J-472	RESISTOR	4.7kΩ,1/6W
R183	QRD161J-472	RESISTOR	4.7kΩ,1/6W
R184	QRD161J-472	RESISTOR	4.7kΩ,1/6W
R185	QRD161J-472	RESISTOR	4.7kΩ,1/6W
R186	QRD161J-472	RESISTOR	4.7kΩ,1/6W
R187	QRD161J-104	RESISTOR	100kΩ,1/6W
R189	QRD161J-104	RESISTOR	100kΩ,1/6W
R190	QRD161J-104	RESISTOR	100kΩ,1/6W
R191	QRD161J-103	RESISTOR	10kΩ,1/6W
R201	QVPB610-502	V RESISTOR	5kΩ
R202	QVPB610-502	V RESISTOR	5kΩ
R203	QVPB610-502	V RESISTOR	5kΩ
R204	QVPB610-502	V RESISTOR	5kΩ
R206	QVPB610-102	V RESISTOR	1kΩ
R207	QVPB610-203	V RESISTOR	20kΩ
C1	QETC1AM-107	E CAPACITOR	100μF,10V
C2	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C3	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C4	QETC1HM-106	E CAPACITOR	10μF,50V
C5	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C6	QCTA1CH-120	CAPACITOR	12pF,16V
C7	QCTA1CH-120	CAPACITOR	12pF,16V
C8	QCYA1HK-103	CAPACITOR	0.01μF,50V
C11	QCYA1HK-103	CAPACITOR	0.01μF,50V
C12	QCYA1HK-103	CAPACITOR	0.01μF,50V
C13	QCYA1HK-103	CAPACITOR	0.01μF,50V
C14	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C15	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C16	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C17	QETC1EM-476	E CAPACITOR	47μF,25V
C18	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C19	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C20	QETC1EM-107	E CAPACITOR	100μF,25V
C21	QETC1EM-107	E CAPACITOR	100μF,25V
C22	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C23	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C24	QETC1AM-227	E CAPACITOR	220μF,10V
C25	QETC1EM-476	E CAPACITOR	47μF,25V
C26	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C27	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C28	QETC1EM-107	E CAPACITOR	100μF,25V
C29	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C30	QETC1EM-227	E CAPACITOR	220μF,25V
C31	QETC1HM-106	E CAPACITOR	10μF,50V
C32	QETC1EM-227	E CAPACITOR	220μF,25V

⚠REF No.	PART No.	PART NAME, DESCRIPTION	
C33	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C34	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C35	PGZ01850	E CAPACITOR	
C37	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C38	QETC1HM-106	E CAPACITOR	10 μ F,50V
C39	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C43	QETC1EM-476	E CAPACITOR	47 μ F,25V
C44	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C45	QETC1EM-476	E CAPACITOR	47 μ F,25V
C46	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C47	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C48	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C49	QFN31HJ-104	M CAPACITOR	0.1 μ F,50V
C50	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C58	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C59	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C60	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C61	QCYA1HJ-153	CAPACITOR	0.015 μ F,50V
C62	QCYA1HJ-153	CAPACITOR	0.015 μ F,50V
C65	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C66	QETC1EM-227	E CAPACITOR	220 μ F,25V
C67	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C68	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C69	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C70	QETC1HM-106	E CAPACITOR	10 μ F,50V
C71	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C72	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C73	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C74	QCTA1CH-680	CAPACITOR	68pF,16V
C75	QCTA1CH-7R0	CAPACITOR	7pF,16V
C76	QCTA1CH-680	CAPACITOR	68pF,16V
C77	QCTA1CH-7R0	CAPACITOR	7pF,16V
C78	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C79	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C80	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C81	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C82	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C83	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C84	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C85	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C86	QETC1EM-107	E CAPACITOR	100 μ F,25V
C87	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C88	QETC1EM-227	E CAPACITOR	220 μ F,25V
C89	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C90	QETC1AM-107	E CAPACITOR	100 μ F,10V
C91	QETC1EM-476	E CAPACITOR	47 μ F,25V
C92	QFV71HJ-104	TF CAPACITOR	0.1 μ F,50V
C93	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C94	QFV71HJ-104	TF CAPACITOR	0.1 μ F,50V
C96	QFV71HJ-154	TF CAPACITOR	0.15 μ F,50V
C97	QFV71HJ-154	TF CAPACITOR	0.15 μ F,50V
C98	QFV71HJ-154	TF CAPACITOR	0.15 μ F,50V
C99	QFV71HJ-104	TF CAPACITOR	0.1 μ F,50V
C100	QETC1HM-475	E CAPACITOR	4.7 μ F,50V
C101	QETC1HM-475	E CAPACITOR	4.7 μ F,50V
C102	QETC1HM-475	E CAPACITOR	4.7 μ F,50V

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
C103	QCYA1HK-472	CAPACITOR	0.0047 μ F,50V
C104	QCYA1HK-472	CAPACITOR	0.0047 μ F,50V
C105	QCYA1HK-472	CAPACITOR	0.0047 μ F,50V
C106	QETC1AM-107	E CAPACITOR	100 μ F,10V
C107	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C108	QETC1EM-476	E CAPACITOR	47 μ F,25V
C109	QFV71HJ-104	TF CAPACITOR	0.1 μ F,50V
C110	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C111	QFV71HJ-104	TF CAPACITOR	0.1 μ F,50V
C113	QFV71HJ-154	TF CAPACITOR	0.15 μ F,50V
C114	QFV71HJ-154	TF CAPACITOR	0.15 μ F,50V
C115	QFV71HJ-154	TF CAPACITOR	0.15 μ F,50V
C116	QFV71HJ-104	TF CAPACITOR	0.1 μ F,50V
C117	QETC1HM-475	E CAPACITOR	4.7 μ F,50V
C118	QETC1HM-475	E CAPACITOR	4.7 μ F,50V
C119	QETC1HM-475	E CAPACITOR	4.7 μ F,50V
C120	QCYA1HK-472	CAPACITOR	0.0047 μ F,50V
C121	QCYA1HK-472	CAPACITOR	0.0047 μ F,50V
C122	QCYA1HK-472	CAPACITOR	0.0047 μ F,50V
C123	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C124	QETC1EM-477	E CAPACITOR	470 μ F,25V
C125	QETC1EM-477	E CAPACITOR	470 μ F,25V
C126	QETC1EM-477	E CAPACITOR	470 μ F,25V
C127	QEZ0139-337	E CAPACITOR	330 μ F
C128	QEZ0139-337	E CAPACITOR	330 μ F
C129	QETC1HM-106	E CAPACITOR	10 μ F,50V
C130	QETC1HM-106	E CAPACITOR	10 μ F,50V
C131	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C132	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C133	QFN31HJ-103	M CAPACITOR	0.01 μ F,50V
C134	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C135	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C139	QFN31HJ-104	M CAPACITOR	0.1 μ F,50V
C140	QFN31HJ-104	M CAPACITOR	0.1 μ F,50V
C141	QCYA1HK-102	CAPACITOR	0.001 μ F,50V
C142	QCYA1HK-102	CAPACITOR	0.001 μ F,50V
C145	QETC1HM-474	E CAPACITOR	0.47 μ F,50V
C146	QETC1HM-474	E CAPACITOR	0.47 μ F,50V
C147	QETC1HM-475	E CAPACITOR	4.7 μ F,50V
C148	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C149	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C150	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C152	QCYA1HK-103	CAPACITOR	0.01 μ F,50V
L1	PU48530-271J	COIL	270 μ H
L2	PU48530-271J	COIL	270 μ H
L3	PU50277	COIL	
L4	PU50277	COIL	
L5	PGZ00253-241	COIL	
L7	PU48530-271J	COIL	270 μ H
L9	PU48530-271J	COIL	270 μ H
L10	PU48530-271J	COIL	270 μ H
L13	PU48530-271J	COIL	270 μ H
L14	PU48530-271J	COIL	270 μ H
L15	PU48530-271J	COIL	270 μ H
L16	PU50277	COIL	

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	L17	PU50277	COIL	
	L18	PU50277	COIL	
	L19	PU50755	COIL	
	L20	PU50755	COIL	
	L22	PU50277	COIL	
⚠	X1	PGZ00067-02	CRYSTAL RESONATOR	
	SW1	QSL0015-L04	DIP SW	
	SW2	PU57551	TACT SWITCH	
⚠	K1	PGZ00354	FERRITE BEADS	
⚠	K2	PGZ00354	FERRITE BEADS	
	TH1	QRD161J-0R0	RESISTOR	0Ω,1/6W
	TH2	QRD161J-0R0	RESISTOR	0Ω,1/6W
	CL1	PGZ01377-03	STYLE PIN, ×3	
	HS1	PQ45789	HEAT SINK, ×2	
	SCW1	SBSB3010Z	SCREW, ×4	
	SKT1	PGZ01724-028	IC SOCKET	
	TP1	PU54983	TEST PIN, ×7	
	CN1	PU58844-8	CONNECTOR	
	CN2	PU58844-11	CONNECTOR	
	CN3	PU58844-7	CONNECTOR	
	CN4	PU58844-9	CONNECTOR	
	CN5	PU58844-10	CONNECTOR	
	CN6	PU58844-3	CONNECTOR	
	CN7	PU58844-10R	CONNECTOR	
	CN8	PU58844-3R	CONNECTOR	
	CN9	PU58844-5	CONNECTOR	
	CN10	PU58798-10	CONNECTOR	
	CN11	PU58844-4	CONNECTOR	
	CN12	PU58844-4R	CONNECTOR	
	CN13	PU58844-5	CONNECTOR	
	CN14	PU58844-3	CONNECTOR	
⚠	CP1	ICP-F10	CIRCUIT PROTECTOR	
⚠	CP2	ICP-F10	CIRCUIT PROTECTOR	

SYSCON BOARD ASSEMBLY <40>

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	PWBA	PGE10152D	SYSCON BOARD ASSY, 525	
		PGE10152B-04	SYSCON BOARD ASSY, 522	
	IC1	HD64180ZF8	I.C.(M)	
	IC2	PGD30620-4-2	I.C.(M), 525	
		or PGD30620C-4-2	I.C.(M), 525	
	IC2	PGD30620-2-4	I.C.(M), 522	
		or PGD30620C-2-4	I.C.(M), 522	
	IC3	TC5564APL-15	I.C.(M)	
	IC5	TMPZ84C30AP-6	I.C.(M)	
	IC6	TMPZ84C30AP-6	I.C.(M)	
	IC7	TMP82C255AN-2	I.C.(M)	
	IC8	TMP82C55AF-2	I.C.(M)	
	IC9	TMP91C640N-2381	I.C.(M)	
	IC10	VC2054	I.C.(M)	
	IC11	TC74HC138AP	I.C.(M)	
	IC12	TC74HC138AP	I.C.(M)	
	IC13	TC74HC32AP	I.C.(M)	
	IC14	TC74HC32AP	I.C.(M)	
	IC15	TC74HC08AP	I.C.(M)	
	IC16	TC74HC11AP	I.C.(M)	
	IC17	TC74HC245AP	I.C.(M)	
	IC18	TC74HC541AP	I.C.(M)	
	IC19	TC74HC541AP	I.C.(M)	
	IC20	TC74HC244AP	I.C.(M)	
	IC21	TC74HC74AP	I.C.(M)	
	IC22	TC74HC74AP	I.C.(M)	
	IC23	TC74HC126AP	I.C.(M)	
	IC24	TC74HC14AP	I.C.(M)	
	IC25	TC74HC4020AP	I.C.(M)	
	IC26	TC74HC126AP	I.C.(M)	
	IC27	MC34051P	I.C.(M)	
	IC28	M51957BL	I.C.(M)	
	IC29	M51957BL	I.C.(M)	
	IC30	TC74HC74AP	I.C.(M)	
	IC31	M5278D05	I.C.(M)	
	IC32	M5278D05	I.C.(M)	
	IC33	TC74HC32AP	I.C.(M)	
	IC34	TC7W08F	I.C.(M)	
	R1	QRD167J-103	RESISTOR	10kΩ,1/6W
	R2	QRD167J-103	RESISTOR	10kΩ,1/6W
	R3	QRD167J-103	RESISTOR	10kΩ,1/6W
	R4	QRD167J-103	RESISTOR	10kΩ,1/6W
	R5	QRD167J-0R0	RESISTOR	0Ω,1/6W
	R6	QRD167J-0R0	RESISTOR	0Ω,1/6W
	R7	QRD167J-333	RESISTOR	33kΩ,1/6W
	R8	QRD167J-333	RESISTOR	33kΩ,1/6W
	R9	QRD167J-101	RESISTOR	100Ω,1/6W
	R10	QRD167J-101	RESISTOR	100Ω,1/6W
	R11	QRD167J-101	RESISTOR	100Ω,1/6W
	R12	QRD167J-101	RESISTOR	100Ω,1/6W
	R13	QRD167J-101	RESISTOR	100Ω,1/6W
	R14	QRD167J-101	RESISTOR	100Ω,1/6W
	R15	QRD167J-101	RESISTOR	100Ω,1/6W
	R16	QRD167J-103	RESISTOR	10kΩ,1/6W

⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R17	QRD167J-563	RESISTOR	56kΩ,1/6W
R18	QRD167J-223	RESISTOR	22kΩ,1/6W
R19	QRD167J-104	RESISTOR	100kΩ,1/6W
R20	QRV147F-1103A	CMF RESISTOR	110kΩ,1/4W
R21	QRV147F-1002A	CMF RESISTOR	10.0kΩ,1/4W
R22	QRD167J-104	RESISTOR	100kΩ,1/6W
R23	QRD167J-102	RESISTOR	1kΩ,1/6W
R24	QRD167J-102	RESISTOR	1kΩ,1/6W
R25	QRD167J-102	RESISTOR	1kΩ,1/6W
R26	QRD167J-103	RESISTOR	10kΩ,1/6W
R27	QRD167J-103	RESISTOR	10kΩ,1/6W
R28	QRD167J-102	RESISTOR	1kΩ,1/6W
R29	QRD167J-102	RESISTOR	1kΩ,1/6W
R30	QRD167J-101	RESISTOR	100Ω,1/6W
R31	QRD167J-103	RESISTOR	10kΩ,1/6W
R32	QRD167J-103	RESISTOR	10kΩ,1/6W
R33	QRD167J-102	RESISTOR	1kΩ,1/6W
R34	QRD167J-102	RESISTOR	1kΩ,1/6W
R35	QRD167J-101	RESISTOR	100Ω,1/6W
R36	QRD167J-333	RESISTOR	33kΩ,1/6W
R37	QRD167J-333	RESISTOR	33kΩ,1/6W
R38	QRD167J-100	RESISTOR	10Ω,1/6W
RA1	QRB08AJ-103	NETWORK RESISTOR	10kΩ,8W
RA2	QRB08AJ-103	NETWORK RESISTOR	10kΩ,8W
RA3	EXB-P88103M	NETWORK RESISTOR	
RA4	EXB-P88103M	NETWORK RESISTOR	
RA5	QRB08AJ-103	NETWORK RESISTOR	10kΩ,8W
RA6	EXB-P84223M	RESISTOR ARRAY	
RA7	QRB08AJ-103	NETWORK RESISTOR	10kΩ,8W
RA8	QRB08AJ-103	NETWORK RESISTOR	10kΩ,8W
RA9	EXB-P88473M	RESISTOR ARRAY	
RA10	QRB08AJ-103	NETWORK RESISTOR	10kΩ,8W
C1	QETA1EM-476	E CAPACITOR	47μF,25V
C2	QETA1EM-107	E CAPACITOR	100μF,25V
C3	QETA1EM-107	E CAPACITOR	100μF,25V
C4	QCC11CJ-104	CAPACITOR	0.1μF,16V
C5	QCC11CJ-104	CAPACITOR	0.1μF,16V
C6	QCC11CJ-104	CAPACITOR	0.1μF,16V
C7	QETA1EM-476	E CAPACITOR	47μF,25V
C8	QCC11CJ-104	CAPACITOR	0.1μF,16V
C9	QCS11HJ-220	CAPACITOR	22pF,50V
C10	QCS11HJ-220	CAPACITOR	22pF,50V
C11	QCS11HJ-180	CAPACITOR	18pF,50V
C12	QCS11HJ-180	CAPACITOR	18pF,50V
C13	QETA1HM-105	E CAPACITOR	1μF,50V
C14	QETA1HM-105	E CAPACITOR	1μF,50V
C15	QCS11HJ-220	CAPACITOR	22pF,50V
C16	QCS11HJ-220	CAPACITOR	22pF,50V
C17	QCS11HJ-220	CAPACITOR	22pF,50V
C19	QCS11HJ-220	CAPACITOR	22pF,50V
C20	QCS11HJ-220	CAPACITOR	22pF,50V
C21	QCS11HJ-220	CAPACITOR	22pF,50V
C22	QCS11HJ-220	CAPACITOR	22pF,50V
C23	QCC11CJ-104	CAPACITOR	0.1μF,16V
C24	QETA1EM-107	E CAPACITOR	100μF,25V

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
C25	QETA1EM-107	E CAPACITOR	100μF,25V
C26	QCC11CJ-104	CAPACITOR	0.1μF,16V
C27	QCF11HP-102	CAPACITOR	0.001μF,50V
C28	QCS11HJ-470	CAPACITOR	47pF,50V
C29	QCF11HP-103	CAPACITOR	0.01μF,50V
C30	QCF11HP-103	CAPACITOR	0.01μF,50V
C31	QCC11CJ-104	CAPACITOR	0.1μF,16V
C51	QCZ0208-104	CAPACITOR	0.1μF
C52	QCC11CJ-104	CAPACITOR	0.1μF,16V
C53	QCC11CJ-104	CAPACITOR	0.1μF,16V
C55	QCC11CJ-104	CAPACITOR	0.1μF,16V
C56	QCC11CJ-104	CAPACITOR	0.1μF,16V
C57	QCC11CJ-104	CAPACITOR	0.1μF,16V
C58	QCC11CJ-104	CAPACITOR	0.1μF,16V
C59	QCC11CJ-104	CAPACITOR	0.1μF,16V
C60	QCC11CJ-104	CAPACITOR	0.1μF,16V
C61	QCC11CJ-104	CAPACITOR	0.1μF,16V
C62	QCC11CJ-104	CAPACITOR	0.1μF,16V
C63	QCC11CJ-104	CAPACITOR	0.1μF,16V
C64	QCC11CJ-104	CAPACITOR	0.1μF,16V
C65	QCC11CJ-104	CAPACITOR	0.1μF,16V
C66	QCC11CJ-104	CAPACITOR	0.1μF,16V
C67	QCC11CJ-104	CAPACITOR	0.1μF,16V
C68	QCC11CJ-104	CAPACITOR	0.1μF,16V
C69	QCC11CJ-104	CAPACITOR	0.1μF,16V
C70	QCC11CJ-104	CAPACITOR	0.1μF,16V
C71	QCC11CJ-104	CAPACITOR	0.1μF,16V
C72	QCC11CJ-104	CAPACITOR	0.1μF,16V
C73	QCZ0208-104	CAPACITOR	0.1μF
C74	QCC11CJ-104	CAPACITOR	0.1μF,16V
C75	QCC11CJ-104	CAPACITOR	0.1μF,16V
C76	QCC11CJ-104	CAPACITOR	0.1μF,16V
C77	QCC11CJ-104	CAPACITOR	0.1μF,16V
C78	QCC11CJ-104	CAPACITOR	0.1μF,16V
C79	QCC11CJ-104	CAPACITOR	0.1μF,16V
C80	QCC11CJ-104	CAPACITOR	0.1μF,16V
C83	QCC11CJ-104	CAPACITOR	0.1μF,16V
L1	PGZ00617-221	COIL	
L2	PGZ00617-221	COIL	
⚠ X1	PGZ00513	CERAMIC FILTER	
⚠ X2	PGZ01561	CRYSTAL RESONATOR	
⚠ K1	PGZ00354	FERRITE BEADS, ×4	
BKT1	PRD30766-01-02	SLOT COVER	
EJ1	PGZ00582	EJECTOR, ×2	
RV1	PU53276	PLASTIC RIVET, ×4	

#⚠REF No.	PART No.	PART NAME, DESCRIPTION
SKT1	PGZ01724-028	IC SOCKET
SLD1	PRD30781-03-05	SHIELD PLATE
TP1	PU54983	TEST PIN, × 19
CN1	PGZ00421-44	MALE CONNECTOR
CN2	PGZ00421-44	MALE CONNECTOR
CN3	PGZ01518-100	HALF PITCH CONNECTOR

AVM/OS BOARD ASSEMBLY <41>

PWBA	PRK20089D	AVM/ONSC BOARD ASSY, 525
	PRK20089B-02	AVM/ONSC BOARD ASSY, 522
STK1	PRD30072-57	STICKER
IC2	TC74HC4066AP	I.C.(M)
IC3	NJM2233BD	I.C.(M)
IC4	M50554-263SP	I.C.(M)
IC5	M52684AP	I.C.(M)
IC6	NJM2233BD	I.C.(M)
IC7	M52684AP	I.C.(M)
IC9	UPC319C	I.C.(M)
IC10	TC74HC00AP	I.C.(M)
IC11	TC4013BP	I.C.(M)
IC12	M51957BL	I.C.(M)
IC13	UPD75P116CW-801	I.C.(M), 525
IC13	UPD75P116CW-314	I.C.(M), 522
IC14	M54519P	I.C.(M)
IC15	M54519P	I.C.(M)
IC17	TC74HC00AP	I.C.(M)
IC18	M5278D12	I.C.(M)
IC19	M5278L05	I.C.(M)
IC20	UPC78N05	I.C.(M)
Q1	2SC1740S(QRS)	TRANSISTOR
Q2	2SA933S(RS)	TRANSISTOR
Q3	2SA933S(RS)	TRANSISTOR
Q4	2SC1740S(QRS)	TRANSISTOR
Q5	2SC1740S(QRS)	TRANSISTOR
Q6	2SC1740S(QRS)	TRANSISTOR
Q7	2SC1740S(QRS)	TRANSISTOR
Q8	2SC1740S(QRS)	TRANSISTOR
Q9	2SA933S(RS)	TRANSISTOR
Q10	2SA933S(RS)	TRANSISTOR
Q11	2SC1740S(QRS)	TRANSISTOR
Q12	2SC1740S(QRS)	TRANSISTOR
Q13	2SA933S(RS)	TRANSISTOR
Q14	2SA933S(RS)	TRANSISTOR
Q15	2SA933S(RS)	TRANSISTOR
Q16	2SC1740S(QRS)	TRANSISTOR
Q17	2SC1740S(QRS)	TRANSISTOR
Q18	2SC1740S(QRS)	TRANSISTOR
Q19	2SC1740S(QRS)	TRANSISTOR
Q20	2SC1740S(QRS)	TRANSISTOR
Q21	2SC1740S(QRS)	TRANSISTOR
Q22	2SC1740S(QRS)	TRANSISTOR
D1	1SS133	DIODE
D2	1SS133	DIODE
D3	1SS133	DIODE
D5	MA27TB	DIODE
D6	1SS133	DIODE
D7	1SS133	DIODE
D8	1SS133	DIODE
D9	1SS133	DIODE
D10	1SS133	DIODE
D11	RD7.5EB2	ZENER DIODE
R2	QRD161J-333	RESISTOR 33kΩ ,1/6W
R3	QRD161J-123	RESISTOR 12kΩ ,1/6W
R4	QRD161J-181	RESISTOR 180Ω ,1/6W
R5	QRV141F-5600AY	CMF RESISTOR 560Ω ,1/4W
R6	QRV141F-3300AY	CMF RESISTOR 330Ω ,1/4W
R7	QRV141F-3000AY	CMF RESISTOR 300Ω ,1/4W
R8	QRV141F-4420AY	CMF RESISTOR 442Ω ,1/4W
R9	QRD161J-182	RESISTOR 1.8kΩ ,1/6W
R10	QRD161J-222	RESISTOR 2.2kΩ ,1/6W
R11	QRD161J-152	RESISTOR 1.5kΩ ,1/6W
R12	QRD161J-561	RESISTOR 560Ω ,1/6W
R13	QRD161J-561	RESISTOR 560Ω ,1/6W
R16	QRD161J-102	RESISTOR 1kΩ ,1/6W
R17	QRD161J-561	RESISTOR 560Ω ,1/6W
R18	QRD161J-332	RESISTOR 3.3kΩ ,1/6W
R19	QRD161J-472	RESISTOR 4.7kΩ ,1/6W
R20	QRD161J-332	RESISTOR 3.3kΩ ,1/6W
R21	QRD161J-391	RESISTOR 390Ω ,1/6W
R22	QRD161J-102	RESISTOR 1kΩ ,1/6W
R23	QRD161J-681	RESISTOR 680Ω ,1/6W
R24	QRD161J-102	RESISTOR 1kΩ ,1/6W
R25	QRD161J-103	RESISTOR 10kΩ ,1/6W
R26	QRD161J-221	RESISTOR 220Ω ,1/6W
R27	QRD161J-103	RESISTOR 10kΩ ,1/6W
R28	QRD161J-102	RESISTOR 1kΩ ,1/6W
R29	QRD161J-681	RESISTOR 680Ω ,1/6W
R30	QRD161J-471	RESISTOR 470Ω ,1/6W
R32	QRD161J-472	RESISTOR 4.7kΩ ,1/6W
R34	QRD161J-122	RESISTOR 1.2kΩ ,1/6W
R35	QRD161J-102	RESISTOR 1kΩ ,1/6W
R36	QRD161J-102	RESISTOR 1kΩ ,1/6W
R37	QRD161J-681	RESISTOR 680Ω ,1/6W
R38	QRD161J-561	RESISTOR 560Ω ,1/6W
R39	QRD161J-393	RESISTOR 39kΩ ,1/6W
R40	QRD161J-152	RESISTOR 1.5kΩ ,1/6W

⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R41	QRD161J-271	RESISTOR	270Ω ,1／6W
R42	QRD161J-103	RESISTOR	10kΩ ,1／6W
R43	QRD161J-222	RESISTOR	2.2kΩ ,1／6W
R44	QRD161J-223	RESISTOR	22kΩ ,1／6W
R45	QRD161J-273	RESISTOR	27kΩ ,1／6W
R46	QRD161J-222	RESISTOR	2.2kΩ ,1／6W
R47	QRD161J-222	RESISTOR	2.2kΩ ,1／6W
R48	QRD161J-222	RESISTOR	2.2kΩ ,1／6W
R49	QRD161J-122	RESISTOR	1.2kΩ ,1／6W
R50	QRD161J-122	RESISTOR	1.2kΩ ,1／6W
R51	QRD161J-101	RESISTOR	100Ω ,1／6W
R52	QRD161J-222	RESISTOR	2.2kΩ ,1／6W
R53	QRD161J-183	RESISTOR	18kΩ ,1／6W
R54	QRD161J-472	RESISTOR	4.7kΩ ,1／6W
R55	QRD161J-391	RESISTOR	390Ω ,1／6W
R56	QRD161J-473	RESISTOR	47kΩ ,1／6W
R57	QRD161J-0R0	RESISTOR	0Ω ,1／6W
R58	QRD161J-103	RESISTOR	10kΩ ,1／6W
R59	QRD161J-561	RESISTOR	560Ω ,1／6W
R60	QRD161J-561	RESISTOR	560Ω ,1／6W
R61	QRD161J-181	RESISTOR	180Ω ,1／6W
R62	QRD161J-223	RESISTOR	22kΩ ,1／6W
R63	QRD161J-223	RESISTOR	22kΩ ,1／6W
R64	QRD161J-152	RESISTOR	1.5kΩ ,1／6W
R66	QRD161J-152	RESISTOR	1.5kΩ ,1／6W
R67	QRD161J-393	RESISTOR	39kΩ ,1／6W
R68	QRD161J-152	RESISTOR	1.5kΩ ,1／6W
R69	QRD161J-271	RESISTOR	270Ω ,1／6W
R70	QRD161J-103	RESISTOR	10kΩ ,1／6W
R71	QRD161J-472	RESISTOR	4.7kΩ ,1／6W
R72	QRD161J-473	RESISTOR	47kΩ ,1／6W
R73	QRD161J-104	RESISTOR	100kΩ ,1／6W
R74	QRD161J-222	RESISTOR	2.2kΩ ,1／6W
R77	QRD161J-122	RESISTOR	1.2kΩ ,1／6W
R78	QRD161J-123	RESISTOR	12kΩ ,1／6W
R79	QRD161J-123	RESISTOR	12kΩ ,1／6W
R80	QRD161J-102	RESISTOR	1kΩ ,1／6W
R81	QRD161J-333	RESISTOR	33kΩ ,1／6W
R82	QRD161J-273	RESISTOR	27kΩ ,1／6W
R83	QRD161J-152	RESISTOR	1.5kΩ ,1／6W
R84	QRD161J-102	RESISTOR	1kΩ ,1／6W
R85	QRD161J-102	RESISTOR	1kΩ ,1／6W
R86	QRD161J-271	RESISTOR	270Ω ,1／6W
R87	QRD161J-222	RESISTOR	2.2kΩ ,1／6W
R88	QRD161J-103	RESISTOR	10kΩ ,1／6W
R89	QRD161J-222	RESISTOR	2.2kΩ ,1／6W
R90	QRD161J-271	RESISTOR	270Ω ,1／6W
R91	QRD161J-222	RESISTOR	2.2kΩ ,1／6W
R92	QRD161J-102	RESISTOR	1kΩ ,1／6W
R93	QRD161J-821	RESISTOR	820Ω ,1／6W
R94	QRD161J-331	RESISTOR	330Ω ,1／6W
R95	QRD161J-681	RESISTOR	680Ω ,1／6W
R97	QRD161J-182	RESISTOR	1.8kΩ ,1／6W
R98	QRD161J-102	RESISTOR	1kΩ ,1／6W
R99	QRD161J-473	RESISTOR	47kΩ ,1／6W
R100	QRD161J-681	RESISTOR	680Ω ,1／6W
R103	QRD161J-104	RESISTOR	100kΩ ,1／6W

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R104	QRD161J-104	RESISTOR	100kΩ ,1／6W
R105	QRD161J-473	RESISTOR	47kΩ ,1／6W
R106	QRD161J-183	RESISTOR	18kΩ ,1／6W
R107	QRD161J-103	RESISTOR	10kΩ ,1／6W
R108	QRD161J-472	RESISTOR	4.7kΩ ,1／6W
R109	QRD161J-472	RESISTOR	4.7kΩ ,1／6W
R110	QRD161J-471	RESISTOR	470Ω ,1／6W
R111	QRD161J-471	RESISTOR	470Ω ,1／6W
R112	QRD161J-471	RESISTOR	470Ω ,1／6W
R113	QRD161J-471	RESISTOR	470Ω ,1／6W
R114	QRD161J-471	RESISTOR	470Ω ,1／6W
R115	QRD161J-471	RESISTOR	470Ω ,1／6W
R116	QRD161J-471	RESISTOR	470Ω ,1／6W
R117	QRD161J-471	RESISTOR	470Ω ,1／6W
R118	QRD161J-121	RESISTOR	120Ω ,1／6W
R119	QRD161J-121	RESISTOR	120Ω ,1／6W
R120	QRD161J-121	RESISTOR	120Ω ,1／6W
R121	QRD161J-121	RESISTOR	120Ω ,1／6W
R122	QRD161J-121	RESISTOR	120Ω ,1／6W
R123	QRD161J-121	RESISTOR	120Ω ,1／6W
R124	QRD161J-121	RESISTOR	120Ω ,1／6W
R125	QRD161J-121	RESISTOR	120Ω ,1／6W
R126	QRD161J-181	RESISTOR	180Ω ,1／6W
R127	QRD161J-473	RESISTOR	47kΩ ,1／6W
R135	QRD161J-103	RESISTOR	10kΩ ,1／6W
R136	QRD161J-181	RESISTOR	180Ω ,1／6W
R138	QRD161J-103	RESISTOR	10kΩ ,1／6W
R139	QRD161J-181	RESISTOR	180Ω ,1／6W
⚠ R140	PU52108-2R2	POSITIVE THERMISTOR	
R141	QRD161J-103	RESISTOR	10kΩ ,1／6W
R142	QRD161J-103	RESISTOR	10kΩ ,1／6W
R143	QRD161J-154	RESISTOR	150kΩ ,1／6W
R144	QRD161J-104	RESISTOR	100kΩ ,1／6W
R1001	QVZ3513-102	V RESISTOR	1kΩ
RA1	EXB-P88103M	NETWORK RESISTOR	
C2	QETC1CM-107	E CAPACITOR	100μF,16V
C3	QETC1CM-106	E CAPACITOR	10μF,16V
C4	QETC1AM-107	E CAPACITOR	100μF,10V
C6	QCC31CK-104	CAPACITOR	0.1μF,16V
C7	QETC1AM-107	E CAPACITOR	100μF,10V
C8	QETC1AM-107	E CAPACITOR	100μF,10V
C9	QCC31CK-104	CAPACITOR	0.1μF,16V
C11	QCS31HJ-220	CAPACITOR	22pF,50V
C13	QCS31HJ-560	CAPACITOR	56pF,50V
C14	QCS31HJ-150	CAPACITOR	15pF,50V
C15	QETC1AM-107	E CAPACITOR	100μF,10V
C16	QCF31HP-103	CAPACITOR	0.01μF,50V
C17	QFN31HJ-222	M CAPACITOR	0.0022μF,50V
C18	QETC1HM-105	E CAPACITOR	1μF,50V
C20	QCS31HJ-220	CAPACITOR	22pF,50V
C21	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C22	QFN31HJ-152	M CAPACITOR	0.0015μF,50V

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
C23	QETC1EM-475	E CAPACITOR	4.7μF,25V
C24	QCS31HJ-390	CAPACITOR	39pF,50V
C25	QCS31HJ-121	CAPACITOR	120pF,50V
C26	QETC1CM-106	E CAPACITOR	10μF,16V
C27	QETC1HM-474	E CAPACITOR	0.47μF,50V
C28	QETC1AM-108	E CAPACITOR	1000μF,10V
C29	QETC1AM-108	E CAPACITOR	1000μF,10V
C30	QETC1AM-107	E CAPACITOR	100μF,10V
C31	QETC1AM-107	E CAPACITOR	100μF,10V
C32	QETC1AM-107	E CAPACITOR	100μF,10V
C33	QCC31CK-104	CAPACITOR	0.1μF,16V
C35	QFN31HJ-222	M CAPACITOR	0.0022μF,50V
C36	QCC31CK-104	CAPACITOR	0.1μF,16V
C37	QCS31HJ-220	CAPACITOR	22pF,50V
C38	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C39	QFN31HJ-152	M CAPACITOR	0.0015μF,50V
C40	QETC1HM-475	E CAPACITOR	4.7μF,50V
C43	QCC31CK-104	CAPACITOR	0.1μF,16V
C46	QETC1CM-107	E CAPACITOR	100μF,16V
C47	QETC1AM-107	E CAPACITOR	100μF,10V
C48	QCS31HJ-101	CAPACITOR	100pF,50V
C49	QCS31HJ-101	CAPACITOR	100pF,50V
C50	QETC1AM-107	E CAPACITOR	100μF,10V
C51	QETC1AM-476	E CAPACITOR	47μF,10V
C52	QETC1HM-474	E CAPACITOR	0.47μF,50V
C53	QETC1HM-474	E CAPACITOR	0.47μF,50V
C54	QETC1AM-107	E CAPACITOR	100μF,10V
C56	QCS31HJ-100	CAPACITOR	10pF,50V
C58	QETC1HM-104	E CAPACITOR	0.1μF,50V
C59	QETC1CM-476	E CAPACITOR	47μF,16V
C60	QCC31EK-104	CAPACITOR	0.1μF,25V
C61	QCC31CK-104	CAPACITOR	0.1μF,16V
C62	QETC1CM-107	E CAPACITOR	100μF,16V
C63	QETC1AM-476	E CAPACITOR	47μF,10V
C64	QCC31CK-104	CAPACITOR	0.1μF,16V
C65	QCC31CK-104	CAPACITOR	0.1μF,16V
C66	QETC1AM-107	E CAPACITOR	100μF,10V
C67	QETC1AM-107	E CAPACITOR	100μF,10V
C68	QCC31CK-104	CAPACITOR	0.1μF,16V
C69	QCC31CK-104	CAPACITOR	0.1μF,16V
C70	QETC1AM-476	E CAPACITOR	47μF,10V
C72	QETC1HM-105	E CAPACITOR	1μF,50V
C73	QCC31CK-104	CAPACITOR	0.1μF,16V
C74	QCC31CK-104	CAPACITOR	0.1μF,16V
C75	QCC31CK-104	CAPACITOR	0.1μF,16V
C76	QCC31CK-104	CAPACITOR	0.1μF,16V
C80	QETC1HM-225	E CAPACITOR	2.2μF,50V
C83	QCC31CK-104	CAPACITOR	0.1μF,16V
C84	QETC1AM-107	E CAPACITOR	100μF,10V
C86	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C89	QCS31HJ-220	CAPACITOR	22pF,50V
C99	QCC31CK-104	CAPACITOR	0.1μF,16V
C100	QCS31HJ-180	CAPACITOR	18pF,50V
C101	PU57672-200	TRIMMER CAPACITOR	20pF
C102	PU57672-300	TRIMMER CAPACITOR	30pF

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
C105	QCF31HP-103	CAPACITOR	0.01μF,50V
C107	QCS31HJ-271	CAPACITOR	270pF,50V
C108	QCS31HJ-820	CAPACITOR	82pF,50V
C109	QETC1CM-107	E CAPACITOR	100μF,16V
L1	PU48530-220J	COIL	22μH
L2	PU48530-471J	COIL	470μH
L3	PU48530-221J	COIL	220μH
L6	PU48530-680J	COIL	68μH
⚠ X1	PGZ01700	CRYSTAL RESONATOR	
⚠ X2	PGZ00937	CERAMIC FILTER	
⚠ X3	PGZ00937	CERAMIC FILTER	
⚠ X5	PU60784	RESONATOR	
⚠ K1	PGZ00354	FERRITE BEADS, ×3	
EJ1	PGZ00582	EJECTOR, ×2	
RV1	PU53276	PLASTIC RIVET, ×4	
SKT1	PGZ01428-064	IC SOCKET	
SLD1	PRD30781-02-03	SHIELD PLATE	
TP1	PU54983	TEST PIN, ×20	
CN1	PGZ00421-64	MALE CONNECTOR	

OPERATION CPU BOARD ASSEMBLY <42>

PWBA	PRK10117H1	OPE CPU BOARD ASSY, 525
	PRK10117G1	OPE CPU BOARD ASSY, 522
IC1	UPD78P214CW-013	I.C.(M), 525
IC1	UPD78P214CW-011	I.C.(M), 522
	or UPD78214CW-F65	I.C.(M), 522
IC2	M6M80011AP	I.C.(M)
IC3	M50255P	I.C.(M)
IC4	M50255P	I.C.(M)
IC6	M5278D05	I.C.(M)
D1	1SS133	DIODE
D2	1SS133	DIODE
D4	1SS133	DIODE
D5	1SS133	DIODE
D6	1SS133	DIODE, 525

⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R1	QRD161J-121	RESISTOR	120Ω,1/6W
R2	QRD161J-121	RESISTOR	120Ω,1/6W
R3	QRD161J-121	RESISTOR	120Ω,1/6W
R4	QRD161J-121	RESISTOR	120Ω,1/6W
R5	QRD161J-121	RESISTOR	120Ω,1/6W
R6	QRD161J-121	RESISTOR	120Ω,1/6W
R7	QRD161J-121	RESISTOR	120Ω,1/6W
R8	QRD161J-121	RESISTOR	120Ω,1/6W
R9	QRD161J-121	RESISTOR	120Ω,1/6W
R10	QRD161J-121	RESISTOR	120Ω,1/6W
R11	QRD161J-121	RESISTOR	120Ω,1/6W
R12	QRD161J-121	RESISTOR	120Ω,1/6W
R13	QRD161J-102	RESISTOR	1kΩ,1/6W
R14	QRD161J-102	RESISTOR	1kΩ,1/6W
R15	QRD161J-102	RESISTOR	1kΩ,1/6W
R16	QRD161J-102	RESISTOR	1kΩ,1/6W
R17	QRD161J-102	RESISTOR	1kΩ,1/6W
R18	QRD161J-121	RESISTOR	120Ω,1/6W
R22	QRD161J-105	RESISTOR	1MΩ,1/6W
R23	QRD161J-121	RESISTOR	120Ω,1/6W
R24	QRD161J-121	RESISTOR	120Ω,1/6W
R25	QRD161J-121	RESISTOR	120Ω,1/6W
R26	QRD161J-121	RESISTOR	120Ω,1/6W
R27	QRD161J-121	RESISTOR	120Ω,1/6W
R28	QRD161J-121	RESISTOR	120Ω,1/6W
R29	QRD161J-121	RESISTOR	120Ω,1/6W
R30	QRD161J-121	RESISTOR	120Ω,1/6W
R31	QRD161J-121	RESISTOR	120Ω,1/6W
R32	QRD161J-121	RESISTOR	120Ω,1/6W
R33	QRD161J-121	RESISTOR	120Ω,1/6W
R34	QRD161J-121	RESISTOR	120Ω,1/6W
R35	QRD161J-121	RESISTOR	120Ω,1/6W
R36	QRD161J-121	RESISTOR	120Ω,1/6W
R37	QRD161J-121	RESISTOR	120Ω,1/6W
R38	QRD161J-121	RESISTOR	120Ω,1/6W
R39	QRD161J-121	RESISTOR	120Ω,1/6W
R40	QRD161J-121	RESISTOR	120Ω,1/6W
R41	QRD161J-121	RESISTOR	120Ω,1/6W
R42	QRD161J-121	RESISTOR	120Ω,1/6W
R50	QRD161J-102	RESISTOR	1kΩ,1/6W
R51	QRD161J-102	RESISTOR	1kΩ,1/6W
R52	QRD161J-102	RESISTOR	1kΩ,1/6W
R55	QRD161J-102	RESISTOR	1kΩ,1/6W
R56	QRD161J-102	RESISTOR	1kΩ,1/6W
R57	QRD161J-102	RESISTOR	1kΩ,1/6W
R58	QRD161J-102	RESISTOR	1kΩ,1/6W
R59	QRD161J-102	RESISTOR	1kΩ,1/6W
R60	QRD161J-102	RESISTOR	1kΩ,1/6W
R61	QRD161J-102	RESISTOR	1kΩ,1/6W
R62	QRD161J-102	RESISTOR	1kΩ,1/6W
R63	QRD161J-102	RESISTOR	1kΩ,1/6W
R64	QRD161J-102	RESISTOR	1kΩ,1/6W
R65	QRD161J-102	RESISTOR	1kΩ,1/6W
R66	QRD161J-102	RESISTOR	1kΩ,1/6W
R68	QRD161J-121	RESISTOR	120Ω,1/6W
R69	QRD161J-121	RESISTOR	120Ω,1/6W

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R70	QRD161J-333	RESISTOR	33kΩ,1/6W
R71	QRD161J-333	RESISTOR	33kΩ,1/6W
R72	QRD161J-333	RESISTOR	33kΩ,1/6W
R73	QRD161J-333	RESISTOR	33kΩ,1/6W
R74	QRD161J-333	RESISTOR	33kΩ,1/6W
R75	QRD161J-333	RESISTOR	33kΩ,1/6W
R76	QRD161J-121	RESISTOR	120Ω,1/6W
R77	QRD161J-121	RESISTOR	120Ω,1/6W
R78	QRD161J-121	RESISTOR	120Ω,1/6W
R79	QRD161J-121	RESISTOR	120Ω,1/6W
R80	QRD161J-333	RESISTOR	33kΩ,1/6W
RA1	EXB-P85333M	RESISTOR ARRAY	
RA2	EXB-P86333M	RESISTOR ARRAY	
C1	QCFB1EZ-223	CAPACITOR	0.022μF,25V
C2	QCSB1HJ-200	CAPACITOR	20pF,50V
C3	QCSB1HJ-200	CAPACITOR	20pF,50V
C4	QCFB1EZ-223	CAPACITOR	0.022μF,25V
C5	QCFB1EZ-223	CAPACITOR	0.022μF,25V
C6	QCFB1EZ-223	CAPACITOR	0.022μF,25V
C8	QER61CM-476	E CAPACITOR	47μF,16V
C9	QCFB1EZ-223	CAPACITOR	0.022μF,25V
C10	QER61CM-476	E CAPACITOR	47μF,16V
C11	QCFB1EZ-223	CAPACITOR	0.022μF,25V
C12	QCFB1EZ-223	CAPACITOR	0.022μF,25V
C13	QER61CM-476	E CAPACITOR	47μF,16V
L1	PGZ00617-221	COIL	
⚠ CF1	PGZ00513	CERAMIC FILTER	
SKT1	PGZ01428-064	IC SOCKET, FOR IC1	
CN1	PU58844-104	CONNECTOR	
CN2	PU58844-109	CONNECTOR	
CN3	PU58844-105	CONNECTOR	
CN4	PU58844-108	CONNECTOR	
CN5	PU58844-113	CONNECTOR	
CN6	PU58844-108	CONNECTOR	
CN7	PU58844-4Y	CONNECTOR	
CN8	PU58844-5R	CONNECTOR	
CN9	PU58844-4R	CONNECTOR	
CN10	PU58844-5	CONNECTOR	
CN11	PU58844-4	CONNECTOR	

OPERATION KEY-1 BOARD ASSEMBLY <43>

PWBA	PRK10117C2	OPE KEY-1 BOARD ASSY, 522
	PRK10117F2	OPE KEY-1 BOARD ASSY, 525

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
FJ2	QMV5001-018	CONNECTOR	
IC1	M50255P	I.C.(M)	
IC2	TC74HC4028AP	I.C.(M)	
IC3	BA618	I.C.(M)	
IC4	TD62583AP	I.C.(M)	
Q1	DTA124EF	TRANSISTOR	
D5	GL-8PR21	LE DIODE	
D6	GL-8PR21	LE DIODE	
D8	GL-8PR21	LE DIODE	
D9	GL-8PR21	LE DIODE	
D10	GL-8PR21	LE DIODE	
D11	GL-8PR21	LE DIODE	
D12	GL-8PR21	LE DIODE	
D13	GL-8HY21	LE DIODE, 525	
D14	GL-8HY21	LE DIODE, 525	
D18	1SS133	DIODE	
D19	1SS133	DIODE	
D20	1SS133	DIODE	
D21	1SS133	DIODE	
D22	1SS133	DIODE, 525	
D26	1SS133	DIODE	
D27	1SS133	DIODE	
D28	1SS133	DIODE	
D29	1SS133	DIODE	
D30	1SS133	DIODE, 525	
D31	1SS133	DIODE	
R5	QRD161J-102	RESISTOR	1kΩ,1/6W
R6	QRD161J-102	RESISTOR	1kΩ,1/6W
R8	QRD161J-102	RESISTOR	1kΩ,1/6W
R9	QRD161J-102	RESISTOR	1kΩ,1/6W
R10	QRD161J-102	RESISTOR	1kΩ,1/6W
R11	QRD161J-102	RESISTOR	1kΩ,1/6W
R12	QRD161J-102	RESISTOR	1kΩ,1/6W
R13	QRD161J-102	RESISTOR, 525	1kΩ,1/6W
R14	QRD161J-102	RESISTOR, 525	1kΩ,1/6W
R15	QRD161J-121	RESISTOR	120Ω,1/6W
R16	QRD161J-121	RESISTOR	120Ω,1/6W
R17	QRD161J-333	RESISTOR	33kΩ,1/6W
R18	QRD161J-333	RESISTOR	33kΩ,1/6W
R20	QRD161J-121	RESISTOR	120Ω,1/6W
R21	QRD161J-121	RESISTOR	120Ω,1/6W
R22	QRD161J-121	RESISTOR	120Ω,1/6W
R23	QRD161J-121	RESISTOR	120Ω,1/6W
R24	QRD161J-121	RESISTOR	120Ω,1/6W
R25	QRD161J-121	RESISTOR	120Ω,1/6W
R26	QRD161J-121	RESISTOR	120Ω,1/6W
R27	QRD161J-121	RESISTOR	120Ω,1/6W
R28	QRD161J-101	RESISTOR	100Ω,1/6W

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R29	QRD161J-101	RESISTOR	100Ω,1/6W
R30	QRD161J-101	RESISTOR	100Ω,1/6W
R31	QRD161J-101	RESISTOR	100Ω,1/6W
R32	QRD161J-101	RESISTOR	100Ω,1/6W
R33	QRD161J-101	RESISTOR	100Ω,1/6W
R34	QRD161J-101	RESISTOR	100Ω,1/6W
R35	QRD161J-101	RESISTOR	100Ω,1/6W
R36	QRD161J-121	RESISTOR	120Ω,1/6W
R37	QRD161J-121	RESISTOR	120Ω,1/6W
R38	QRD161J-121	RESISTOR	120Ω,1/6W
C1	QCFB1EZ-223	CAPACITOR	0.022μF,25V
C2	QCFB1EZ-223	CAPACITOR	0.022μF,25V
C3	QCFB1EZ-223	CAPACITOR	0.022μF,25V
SW4	PU57551	TACT SWITCH	
SW5	PU57551	TACT SWITCH	
SW6	PU57551	TACT SWITCH	
SW7	PU57551	TACT SWITCH	
SW8	PU57551	TACT SWITCH, 525	
SW12	PU57551	TACT SWITCH	
SW13	PU57551	TACT SWITCH	
SW14	PU57551	TACT SWITCH	
SW15	PU57551	TACT SWITCH	
SW16	PU57551	TACT SWITCH, 525	
HD1	PRD43073	LED HOLDER, ×7(522) ×9(525)	
HD2	PQ40795-2-2	LED HOLDER, ×7(522) ×9(525)	
SPC1	PRD30030-85	PAD	

OPERATION KEY-2 BOARD ASSEMBLY <44>

PWBA	PRK10117F3	OPE KEY-2 BOARD ASSY, 525	
	PRK10117C3	OPE KEY-2 BOARD ASSY, 522	
Q1	DTA124ES	TRANSISTOR	
Q2	DTA124ES	TRANSISTOR	
Q4	DTA124ES	TRANSISTOR	
D20	1SS133	DIODE	
D21	1SS133	DIODE	
D23	1SS133	DIODE	
D24	1SS133	DIODE	
R1	QRD161J-121	RESISTOR	120Ω,1/6W
R2	QRD161J-121	RESISTOR	120Ω,1/6W
R4	QRD161J-121	RESISTOR	120Ω,1/6W

⚠REF No.	PART No.	PART NAME, DESCRIPTION
SW13	PGZ00470-02	SLIDE SWITCH
SW14	PGZ00470-02	SLIDE SWITCH
SW16	PGZ00469-02	SLIDE SWITCH
SW17	PGZ00470-02	SLIDE SWITCH
CN1	PU58844-13	CONNECTOR
CN2	PU58844-8	CONNECTOR
CN3	PU58844-5	CONNECTOR
CN4	PU58844-2	CONNECTOR

COUNTER DISPLAY BOARD ASSY <45>

PWBA	PRK30100A-01	COUNTER DISPLAY BOARD ASSY
SPC1	PRD30030-36	PAD, ×2
D1	LA-401VN	LE DIODE
D2	LA-401VN	LE DIODE
D3	LA-401VN	LE DIODE
D4	LA-401VN	LE DIODE
D5	LA-401VN	LE DIODE
D6	LA-401VN	LE DIODE
D7	LA-401VN	LE DIODE
D8	LA-401VN	LE DIODE
SW1	PU57550	TACT SWITCH
SPC1	PRD30030-36	PAD, ×2

MAIN LED BOARD ASSEMBLY <46>

PWBA	PRK20143D1	MAIN LED BOARD ASSY
D1	GL-8EG21	LE DIODE
D2	GL-8EG21	LE DIODE
D3	AABG4307K	LE DIODE
D4	GL-8EG21	LE DIODE
D5	GL-8EG21	LE DIODE
D7	GL-8EG21	LE DIODE
D8	GL-8HY21	LE DIODE
D9	GL-8EG21	LE DIODE
D10	GL-8EG21	LE DIODE
D11	GL-8EG21	LE DIODE
D12	GL-8PR21	LE DIODE
D13	GL-8EG21	LE DIODE
D14	GL-8EG21	LE DIODE
D15	GL-8EG21	LE DIODE

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R1	QRD167J-152	RESISTOR	1.5kΩ,1/6W
R2	QRD167J-152	RESISTOR	1.5kΩ,1/6W
CN1	PU58844-5R	CONNECTOR	
CN2	PU58844-4R	CONNECTOR	
CN3	PU58844-5	CONNECTOR	
CN4	PU58844-4	CONNECTOR	

DIRECTION LED BOARD ASSEMBLY <47>

PWBA	PRK10117A5	DIRECTION LED BOARD ASSY
D1	GL-8PR21	LE DIODE
D2	GL-8PR21	LE DIODE
D3	SLB-55MG3F	LE DIODE
D4	SLB-55VR3F	LE DIODE
D5	SLB-55MG3F	LE DIODE
SW1	PU57551	TACT SWITCH
HD1	PU50633-4	LED HOLDER, ×2
HD2	PU50633-3	LED SPACER, ×3
HD3	PQ40795-2-2	LED HOLDER, ×3
SPC1	PU50633-3	LED SPACER, ×3
CN6	PU58844-8	CONNECTOR

EJECT SW BOARD ASSEMBLY <48>

PWBA	PRK20143A2	EJECT SW BOARD ASSY
D1	GL-8PR21	LE DIODE
SW1	PU57551	TACT SWITCH
CN1	PU58844-4Y	CONNECTOR

SRH PRE BOARD ASSEMBLY, 525 <50>

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
PWBA	PRK20171C	SRACH PRE AMP BOARD ASSY	
IC1	UPC2320GS	I.C.(M)	
IC2	TA78009AP	I.C.(M)	
IC3	UPC78L05T	I.C.(M)	
IC4	TC4013BF	I.C.(M)	
IC5	TC4053BF	I.C.(M)	
IC6	TA7347P	I.C.(M)	
IC7	TC4S30F	I.C.(M)	
IC8	TA78009AP	I.C.(M)	
IC9	TC7W02F	I.C.(M)	
Q1	2SD601A(Q)	TRANSISTOR	
Q2	2SD601A(Q)	TRANSISTOR	
Q5	2SD601A(Q)	TRANSISTOR	
Q6	IMH5	TRANSISTOR	
Q7	IMH5	TRANSISTOR	
Q8	IMH5	TRANSISTOR	
Q10	2SB709A(Q)	TRANSISTOR	
Q11	2SD601A(Q)	TRANSISTOR	
Q12	2SD601A(Q)	TRANSISTOR	
Q13	2SB709A(Q)	TRANSISTOR	
Q14	2SC3110	TRANSISTOR	
Q15	2SC3110	TRANSISTOR	
Q16	2SC3110	TRANSISTOR	
Q17	2SC3110	TRANSISTOR	
D1	1SS133	DIODE	
R11	QRSA08J-3R9YN	RESISTOR	3.9Ω,1/10W
R12	QRSA08J-3R9YN	RESISTOR	3.9Ω,1/10W
R13	QRSA08J-3R9YN	RESISTOR	3.9Ω,1/10W
R14	QRSA08J-3R9YN	RESISTOR	3.9Ω,1/10W
R15	QRSA08J-3R9YN	RESISTOR	3.9Ω,1/10W
R16	QRSA08J-3R9YN	RESISTOR	3.9Ω,1/10W
R17	QRSA08J-3R9YN	RESISTOR	3.9Ω,1/10W
R18	QRSA08J-3R9YN	RESISTOR	3.9Ω,1/10W
R19	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R20	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R21	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
R22	QRSA08J-221YN	RESISTOR	220Ω,1/10W
R23	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
R24	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R27	QRSA08J-221YN	RESISTOR	220Ω,1/10W
R28	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
R29	QRSA08J-221YN	RESISTOR	220Ω,1/10W
R30	QRSA08J-221YN	RESISTOR	220Ω,1/10W
R31	QRSA08J-221YN	RESISTOR	220Ω,1/10W
R32	QRSA08J-221YN	RESISTOR	220Ω,1/10W
R34	QRSA08J-221YN	RESISTOR	220Ω,1/10W
R35	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R36	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R37	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R38	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R39	QRSA08J-123YN	RESISTOR	12kΩ,1/10W
R40	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R41	QRSA08J-681YN	RESISTOR	680Ω,1/10W
R42	QRSA08J-681YN	RESISTOR	680Ω,1/10W
R43	QRSA08J-331YN	RESISTOR	330Ω,1/10W
R44	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R45	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R46	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
R47	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R48	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R49	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R50	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R51	QRSA08J-561YN	RESISTOR	560Ω,1/10W
R52	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R53	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R55	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R56	QRSA08J-821YN	RESISTOR	820Ω,1/10W
R57	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
R59	QRSA08J-271YN	RESISTOR	270Ω,1/10W
R60	QRSA08J-221YN	RESISTOR	220Ω,1/10W
R61	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R62	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R63	QRSA08J-183YN	RESISTOR	18kΩ,1/10W
R64	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R65	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R66	QRSA08J-183YN	RESISTOR	18kΩ,1/10W
R67	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R68	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R69	QRSA08J-183YN	RESISTOR	18kΩ,1/10W
R70	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R71	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R72	QRSA08J-183YN	RESISTOR	18kΩ,1/10W
C1	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C2	QEF81EM-474	TANTAL CAPACITOR	0.47μF,25V
C3	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C4	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C5	QEF81EM-474	TANTAL CAPACITOR	0.47μF,25V
C6	QEF81EM-474	TANTAL CAPACITOR	0.47μF,25V
C7	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C8	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C9	QEF81EM-474	TANTAL CAPACITOR	0.47μF,25V
C10	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C11	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C12	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C13	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C14	QCYA1EK-104	CAPACITOR	0.1μF,25V
C15	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C16	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C17	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C18	QEK61HM-474	E CAPACITOR	0.47μF,50V
C19	QCYA1HK-222	CAPACITOR	0.0022μF,50V
C20	QCYA1HK-222	CAPACITOR	0.0022μF,50V
C21	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C22	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C23	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C24	QEK61CM-106	E CAPACITOR	10μF,16V
C25	QCFA1EZ-104	CAPACITOR	0.1μF,25V

⚠REF No.	PART No.	PART NAME, DESCRIPTION	
C26	QEK61CM-106	E CAPACITOR	10μF,16V
C27	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C28	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C29	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C30	QEK61CM-106	E CAPACITOR	10μF,16V
C31	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C32	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C33	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C35	QCYA1HK-102	CAPACITOR	0.001μF,50V
C36	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C37	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C38	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C39	QEK61CM-106	E CAPACITOR	10μF,16V
C42	QCTA1CH-101	CAPACITOR	100pF,16V
C44	QCTA1CH-9R0	CAPACITOR	9pF,16V
C45	QEK61CM-106	E CAPACITOR	10μF,16V
C46	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C47	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C48	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C49	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C50	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C51	QEK61CM-106	E CAPACITOR	10μF,16V
C52	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C53	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C54	QCTA1CH-470	CAPACITOR	47pF,16V
C56	QCTA1CH-180	CAPACITOR	18pF,16V
C57	QCTA1CH-180	CAPACITOR	18pF,16V
C58	QCTA1CH-180	CAPACITOR	18pF,16V
C59	QCTA1CH-180	CAPACITOR	18pF,16V
C60	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C61	QCTA1CH-470	CAPACITOR	47pF,16V
C62	QCTA1CH-101	CAPACITOR	100pF,16V
C63	QCTA1CH-101	CAPACITOR	100pF,16V
C64	QCTA1CH-101	CAPACITOR	100pF,16V
C65	QCTA1CH-101	CAPACITOR	100pF,16V
L1	YU41135-101KY	COIL	100μH
L2	YU41135-101KY	COIL	100μH
L3	YU41135-101KY	COIL	100μH
L4	PU48530-100J	COIL	10μH
L6	YU41135-101KY	COIL	100μH
L7	YU41135-101KY	COIL	100μH
K1	PGZ00354	FERRITE BEADS, ×6	
BKT1	PRD43962	BOARD BRACKET, ×2	
CL1	PGZ01377-03	STYLE PIN, ×2	
HS1	PRD42009	HEAT SINK	
SCW1	DPSP3006Z	SCREW, ×2	
SCW2	DPSP3006Z	SCREW, ×2	

#⚠REF No.	PART No.	PART NAME, DESCRIPTION
SLD1	PRD30254	SHIELD CASE
SLD2	PRD30255	SHIELD CAP
SPC1	PU60010	SPACER, ×2
SPC2	WBS3000N	WASHER, ×2
SPC3	PGZ00150	TR SPACER, ×2
TP1	PU54983	TEST PIN, ×3
CN1	PU58844-2	CONNECTOR
CN2	PU56258-10	CONNECTOR
CN3	PU58844-7	CONNECTOR
CN4	PU58844-4	CONNECTOR
CN5	PU58844-8	CONNECTOR
CN6	PU58844-2Y	CONNECTOR
CN7	PU58844-4R	CONNECTOR
CN8	PU58844-3	CONNECTOR
CN9	PU58844-9	CONNECTOR
CN10	PU58844-9	CONNECTOR
⚠ CP1	ICP-F20	CIRCUIT PROTECTOR

- POWER SW BOARD ASSEMBLY, 525 -

PWBA	PRK20217A	POWER SWITCH BOARD ASSY	
Q1	2SB1132(QR)	TRANSISTOR	
Q2	DTC124EK	TRANSISTOR	
R1	QRSA08J-331YN	RESISTOR	330Ω,1/10W
R2	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R3	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
C1	QCFA1EZ-104	CAPACITOR	0.1μF,25V

VARIABLE TRACKING BOARD ASSY,525<51>

PWBA	PRK10087A-05	VT(AT) BOARD ASSY
IC1	PGD30241-9-5	I.C.(M)
	or PGD30241C-9-5	I.C.(M)
IC2	UPD78233GC-3B9	I.C.(M)
IC3	M51957BFP	I.C.(M)
IC4	TC74HC133AF	I.C.(M)
IC5	TC74HC573AF	I.C.(M)
IC6	UPC78N05	I.C.(M)

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#⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	IC7	TC74HC4052AF	I.C.(M)
	IC8	TC74HC191AF	I.C.(M)
	IC9	TC74HC191AF	I.C.(M)
	IC10	TC74HC191AF	I.C.(M)
	IC11	TC74HC541AF	I.C.(M)
	IC12	TC74HC191AF	I.C.(M)
	IC13	TC74HC191AF	I.C.(M)
	IC14	TC74HC191AF	I.C.(M)
	IC15	TC74HC541AF	I.C.(M)
	IC16	TC74HC191AF	I.C.(M)
	IC17	TC74HC191AF	I.C.(M)
	IC18	TC74HC191AF	I.C.(M)
	IC19	TC74HC541AF	I.C.(M)
	IC20	TC74HC74AF	I.C.(M)
	IC21	MSM5210RS	I.C.(M)
	IC22	TC74HC4040AF	I.C.(M)
	IC23	TC74HC191AF	I.C.(M)
	IC24	TC74HC191AF	I.C.(M)
	IC25	TC74HC74AF	I.C.(M)
	IC27	TC4050BF	I.C.(M)
	IC28	TC74HC04AF	I.C.(M)
	IC29	TC74HC08AF	I.C.(M)
	IC30	TC74HC86AF	I.C.(M)
	IC31	TC74HC00AF	I.C.(M)
	IC32	TC74HC32AF	I.C.(M)
	IC34	TC74HC04AF	I.C.(M)
	IC35	TC74HC74AF	I.C.(M)
	IC36	TC74HC4040AF	I.C.(M)
	IC51	UPC78N12H	I.C.(M)
	IC52	UPC79N12H	I.C.(M)
	IC53	UPC78L05T	I.C.(M)
	IC54	BA10324F	I.C.(M)
	IC55	UPC4082G2	I.C.(M)
	IC56	BA4558F	I.C.(M)
	IC57	TC4051BF	I.C.(M)
	IC58	BA4558F	I.C.(M)
	IC59	BA4558F	I.C.(M)
	IC60	BA4558F	I.C.(M)
	IC61	TC4053BF	I.C.(M)
	IC62	BA10339F	I.C.(M)
	IC64	UPC4082G2	I.C.(M)
	IC65	BA4558F	I.C.(M)
	IC66	TC4051BF	I.C.(M)
	IC67	BA4558F	I.C.(M)
	IC68	BA4558F	I.C.(M)
	IC69	BA4558F	I.C.(M)
	IC70	NJM431U-XE	I.C.(M)
	IC71	AN607P	I.C.(M)
	IC72	AN607P	I.C.(M)
⚠	Q1	2SD1691(K)	TRANSISTOR
⚠	Q2	2SB1151(K)	TRANSISTOR
⚠	Q3	2SD1691(K)	TRANSISTOR
⚠	Q4	2SB1151(K)	TRANSISTOR
	Q5	2SC2412K(QR)	TRANSISTOR
	Q6	2SA1020(Y)	TRANSISTOR

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	Q7	DTC114EK	TRANSISTOR	
	D1	GL-3PR8	LE DIODE	
	D2	GL-3PR8	LE DIODE	
	D3	GL-3PR8	LE DIODE	
	D4	GL-3PR8	LE DIODE	
	D6	RD5.1ES-T1B2	ZENER DIODE	
	D8	DAP202K	DIODE	
	D9	DA204K	DIODE	
	D101	DA204K	DIODE	
	D102	DA204K	DIODE	
	D103	DAP202K	DIODE	
	D104	1SS99	DIODE	
	D105	1SS99	DIODE	
	D108	RD5.1ES-T1B2	ZENER DIODE	
	D109	RD9.1ES-T1B2	ZENER DIODE	
	D110	RD5.1ES-T1B2	ZENER DIODE	
	D111	1SS99	DIODE	
	D112	1SS135	DIODE	
	D113	1SS135	DIODE	
	D114	1SS135	DIODE	
	D115	1SS135	DIODE	
	R1	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
	R4	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
	R5	QRSA08J-561YN	RESISTOR	560Ω,1/10W
	R6	QRSA08J-561YN	RESISTOR	560Ω,1/10W
	R7	QRSA08J-561YN	RESISTOR	560Ω,1/10W
	R8	QRSA08J-561YN	RESISTOR	560Ω,1/10W
	R9	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
	R10	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
	R11	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
	R12	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
	R13	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
	R14	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
	R15	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
	R16	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
	R17	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
	R18	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
	R19	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
	R20	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
	R21	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
	R22	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
	R23	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
	R24	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
	R27	QRSA08J-121YN	RESISTOR	120Ω,1/10W
	R28	QRSA08J-121YN	RESISTOR	120Ω,1/10W
	R29	QRSA08J-121YN	RESISTOR	120Ω,1/10W
	R30	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
	R31	QRSA08J-272YN	RESISTOR	2.7kΩ,1/10W
	R32	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
	R33	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
	R34	QRSA08J-105YN	RESISTOR	1MΩ,1/10W
	R35	QRSA08J-331YN	RESISTOR	330Ω,1/10W
	R36	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
	R37	QRSA08J-102YN	RESISTOR	1kΩ,1/10W

⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R38	QRSA08J-104YN	RESISTOR	100kΩ ,1／10W
R39	QRSA08J-104YN	RESISTOR	100kΩ ,1／10W
R40	QRSA08J-332YN	RESISTOR	3.3kΩ ,1／10W
R41	QRSA08J-104YN	RESISTOR	100kΩ ,1／10W
R42	QRSA08J-102YN	RESISTOR	1kΩ ,1／10W
R43	QRSA08J-103YN	RESISTOR	10kΩ ,1／10W
R44	QRSA08J-103YN	RESISTOR	10kΩ ,1／10W
R45	QRSA08J-103YN	RESISTOR	10kΩ ,1／10W
R46	QRSA08J-103YN	RESISTOR	10kΩ ,1／10W
R47	QRSA08J-104YN	RESISTOR	100kΩ ,1／10W
R48	QRSA08J-104YN	RESISTOR	100kΩ ,1／10W
R49	QRSA08J-104YN	RESISTOR	100kΩ ,1／10W
R50	QRSA08J-104YN	RESISTOR	100kΩ ,1／10W
R51	QRSA08J-104YN	RESISTOR	100kΩ ,1／10W
R52	QRSA08J-104YN	RESISTOR	100kΩ ,1／10W
R53	QRSA08J-102YN	RESISTOR	1kΩ ,1／10W
R54	QRSA08J-102YN	RESISTOR	1kΩ ,1／10W
R55	QRSA08J-0R0Y	RESISTOR	0Ω ,1／10W
R56	QRSA08J-102YN	RESISTOR	1kΩ ,1／10W
R57	QRSA08J-104YN	RESISTOR	100kΩ ,1／10W
R58	QRSA08J-0R0Y	RESISTOR	0Ω ,1／10W
R60	QRSA08J-0R0Y	RESISTOR	0Ω ,1／10W
R61	QRSA08J-103YN	RESISTOR	10kΩ ,1／10W
R63	QRSA08J-103YN	RESISTOR	10kΩ ,1／10W
R64	QRSA08J-103YN	RESISTOR	10kΩ ,1／10W
R66	QRSA08J-103YN	RESISTOR	10kΩ ,1／10W
R67	QRSA08J-103YN	RESISTOR	10kΩ ,1／10W
R68	QRSA08J-102YN	RESISTOR	1kΩ ,1／10W
R69	QRSA08J-102YN	RESISTOR	1kΩ ,1／10W
R70	QRSA08J-103YN	RESISTOR	10kΩ ,1／10W
R71	QRSA08J-102YN	RESISTOR	1kΩ ,1／10W
R72	QRSA08J-103YN	RESISTOR	10kΩ ,1／10W
R73	QRSA08J-473YN	RESISTOR	47kΩ ,1／10W
R101	QRSA08J-102YN	RESISTOR	1kΩ ,1／10W
R102	QRSA08J-471YN	RESISTOR	470Ω ,1／10W
R103	QRSA08J-563YN	RESISTOR	56kΩ ,1／10W
R106	QRSA08J-103YN	RESISTOR	10kΩ ,1／10W
R107	QRSA08J-822YN	RESISTOR	8.2kΩ ,1／10W
R108	QRSA08J-102YN	RESISTOR	1kΩ ,1／10W
R109	QRSA08J-822YN	RESISTOR	8.2kΩ ,1／10W
R110	QRSA08J-102YN	RESISTOR	1kΩ ,1／10W
R111	QRSA08J-103YN	RESISTOR	10kΩ ,1／10W
R112	QRSA08J-102YN	RESISTOR	1kΩ ,1／10W
R113	QRSA08J-103YN	RESISTOR	10kΩ ,1／10W
R114	QRSA08J-103YN	RESISTOR	10kΩ ,1／10W
R115	QRSA08J-822YN	RESISTOR	8.2kΩ ,1／10W
R116	QRSA08J-273YN	RESISTOR	27kΩ ,1／10W
R117	QRSA08J-122YN	RESISTOR	1.2kΩ ,1／10W
R118	QRSA08J-222YN	RESISTOR	2.2kΩ ,1／10W
R119	QRSA08J-103YN	RESISTOR	10kΩ ,1／10W
R120	QRSA08J-103YN	RESISTOR	10kΩ ,1／10W
R121	QRSA08J-103YN	RESISTOR	10kΩ ,1／10W
R122	QRSA08J-103YN	RESISTOR	10kΩ ,1／10W
R123	QRSA08J-0R0Y	RESISTOR	0Ω ,1／10W
R125	QRSA08J-103YN	RESISTOR	10kΩ ,1／10W
R126	QRSA08J-102YN	RESISTOR	1kΩ ,1／10W

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R127	QRSA08J-102YN	RESISTOR	1kΩ ,1／10W
R128	QRSA08J-123YN	RESISTOR	12kΩ ,1／10W
R129	QRSA08J-562YN	RESISTOR	5.6kΩ ,1／10W
R130	QRSA08J-154YN	RESISTOR	150kΩ ,1／10W
R131	QRSA08J-123YN	RESISTOR	12kΩ ,1／10W
R132	QRSA08J-154YN	RESISTOR	150kΩ ,1／10W
R133	QRSA08J-562YN	RESISTOR	5.6kΩ ,1／10W
R134	QRSA08J-0R0Y	RESISTOR	0Ω ,1／10W
R136	QRSA08J-392YN	RESISTOR	3.9kΩ ,1／10W
R138	QRSA08J-473YN	RESISTOR	47kΩ ,1／10W
R139	QRSA08J-0R0Y	RESISTOR	0Ω ,1／10W
R141	QRSA08J-152YN	RESISTOR	1.5kΩ ,1／10W
R142	QRSA08J-153YN	RESISTOR	15kΩ ,1／10W
R143	QRSA08J-152YN	RESISTOR	1.5kΩ ,1／10W
R144	QRSA08J-153YN	RESISTOR	15kΩ ,1／10W
R145	QRSA08J-105YN	RESISTOR	1MΩ ,1／10W
R146	QRSA08J-103YN	RESISTOR	10kΩ ,1／10W
R147	QRSA08J-102YN	RESISTOR	1kΩ ,1／10W
R148	QRSA08J-102YN	RESISTOR	1kΩ ,1／10W
R149	QRSA08J-103YN	RESISTOR	10kΩ ,1／10W
R150	QRSA08J-101YN	RESISTOR	100Ω ,1／10W
R151	NRVA62D-103N	RESISTOR	10kΩ ,1／16W
R153	NRVA62D-103N	RESISTOR	10kΩ ,1／16W
R154	QRSA08J-222YN	RESISTOR	2.2kΩ ,1／10W
R155	QRSA08J-102YN	RESISTOR	1kΩ ,1／10W
R156	QRSA08J-471YN	RESISTOR	470Ω ,1／10W
R157	QRSA08J-563YN	RESISTOR	56kΩ ,1／10W
R160	QRSA08J-103YN	RESISTOR	10kΩ ,1／10W
R161	QRSA08J-103YN	RESISTOR	10kΩ ,1／10W
R162	QRSA08J-102YN	RESISTOR	1kΩ ,1／10W
R163	QRSA08J-103YN	RESISTOR	10kΩ ,1／10W
R164	QRSA08J-103YN	RESISTOR	10kΩ ,1／10W
R165	QRSA08J-822YN	RESISTOR	8.2kΩ ,1／10W
R166	QRSA08J-273YN	RESISTOR	27kΩ ,1／10W
R167	QRSA08J-122YN	RESISTOR	1.2kΩ ,1／10W
R168	QRSA08J-222YN	RESISTOR	2.2kΩ ,1／10W
R169	QRSA08J-103YN	RESISTOR	10kΩ ,1／10W
R170	QRSA08J-103YN	RESISTOR	10kΩ ,1／10W
R171	QRSA08J-103YN	RESISTOR	10kΩ ,1／10W
R172	QRSA08J-103YN	RESISTOR	10kΩ ,1／10W
R173	QRSA08J-0R0Y	RESISTOR	0Ω ,1／10W
R175	QRSA08J-103YN	RESISTOR	10kΩ ,1／10W
R176	QRSA08J-102YN	RESISTOR	1kΩ ,1／10W
R177	QRSA08J-102YN	RESISTOR	1kΩ ,1／10W
R178	QRSA08J-123YN	RESISTOR	12kΩ ,1／10W
R179	QRSA08J-562YN	RESISTOR	5.6kΩ ,1／10W
R180	QRSA08J-154YN	RESISTOR	150kΩ ,1／10W
R181	QRSA08J-123YN	RESISTOR	12kΩ ,1／10W
R182	QRSA08J-154YN	RESISTOR	150kΩ ,1／10W
R183	QRSA08J-562YN	RESISTOR	5.6kΩ ,1／10W
R184	QRSA08J-0R0Y	RESISTOR	0Ω ,1／10W
R186	QRSA08J-392YN	RESISTOR	3.9kΩ ,1／10W
R188	QRSA08J-473YN	RESISTOR	47kΩ ,1／10W
R189	QRSA08J-0R0Y	RESISTOR	0Ω ,1／10W
R191	QRSA08J-152YN	RESISTOR	1.5kΩ ,1／10W
R192	QRSA08J-153YN	RESISTOR	15kΩ ,1／10W

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R193	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R194	QRSA08J-153YN	RESISTOR	15kΩ,1/10W
R195	QRSA08J-105YN	RESISTOR	1MΩ,1/10W
R196	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R197	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R198	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R199	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R200	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R201	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R202	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R203	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R204	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R205	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R206	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R207	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R208	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
⚠ R209	PU52108-2R2K	POSITIVE THERMISTOR	
⚠ R210	PU52108-2R2K	POSITIVE THERMISTOR	
R211	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
R212	QRSA08J-474YN	RESISTOR	470kΩ,1/10W
R213	QRSA08J-105YN	RESISTOR	1MΩ,1/10W
R222	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
R223	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
R224	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
R225	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
R226	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R227	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
R228	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R229	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
R230	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
R231	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
R232	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R233	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
R234	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R235	QRSA08J-154YN	RESISTOR	150kΩ,1/10W
R236	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
R237	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R238	QRSA08J-105YN	RESISTOR	1MΩ,1/10W
R239	QRSA08J-105YN	RESISTOR	1MΩ,1/10W
R301	QVPC610-102	V RESISTOR	1kΩ
R302	QVPC610-102	V RESISTOR	1kΩ
R303	QVPC610-102	V RESISTOR	1kΩ
R304	QVPC610-102	V RESISTOR	1kΩ
R305	QVPC610-102	V RESISTOR	1kΩ
R306	QVPC610-102	V RESISTOR	1kΩ
R307	QVPC610-102	V RESISTOR	1kΩ
R308	QVPC610-102	V RESISTOR	1kΩ
R309	QVPC610-102	V RESISTOR	1kΩ
RA1	QRB24CF-502	RESISTOR ARRAY	5kΩ
RA2	QRB24CF-502	RESISTOR ARRAY	5kΩ
C1	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C2	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C3	QETC1AM-107	E CAPACITOR	100μF,10V
C4	QETC1AM-476	E CAPACITOR	47μF,10V

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
C5	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C6	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C7	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C8	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C9	QETC1HM-474	E CAPACITOR	0.47μF,50V
C10	QCTA1CH-220	CAPACITOR	22pF,16V
C11	QCTA1CH-220	CAPACITOR	22pF,16V
C12	QCYA1HK-103	CAPACITOR	0.01μF,50V
C13	QCYA1HK-102	CAPACITOR	0.001μF,50V
C14	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C15	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C18	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C19	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C20	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C21	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C22	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C23	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C24	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C25	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C26	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C27	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C28	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C29	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C30	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C31	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C32	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C33	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C34	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C35	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C36	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C37	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C38	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C39	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C40	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C41	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C42	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C43	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C44	QCYA1HK-103	CAPACITOR	0.01μF,50V
C45	QCYA1HK-102	CAPACITOR	0.001μF,50V
C46	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C47	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C48	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C49	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C50	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C51	QCYA1HK-103	CAPACITOR	0.01μF,50V
C52	QCYA1HK-103	CAPACITOR	0.01μF,50V
C53	QETC1CM-108	E CAPACITOR	1000μF,16V
C101	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C102	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C103	QETC1EM-107	E CAPACITOR	100μF,25V
C104	QETC1EM-107	E CAPACITOR	100μF,25V
C105	QETC1EM-476	E CAPACITOR	47μF,25V
C106	QETC1EM-476	E CAPACITOR	47μF,25V
C107	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C108	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C109	QETC1EM-476	E CAPACITOR	47μF,25V
C110	QETC1EM-476	E CAPACITOR	47μF,25V

⚠REF No.	PART No.	PART NAME, DESCRIPTION	
C111	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C112	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C113	QETC1EM-476	E CAPACITOR	47μF,25V
C114	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C115	QCYA1HK-103	CAPACITOR	0.01μF,50V
C116	QCTA1CH-101	CAPACITOR	100pF,16V
C117	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C118	QFN31HJ-473	M CAPACITOR	0.047μF,50V
C119	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C120	QFN31HJ-104	M CAPACITOR	0.1μF,50V
C121	QFN31HJ-104	M CAPACITOR	0.1μF,50V
C123	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C124	QCYA1HK-102	CAPACITOR	0.001μF,50V
C125	QCYA1HK-102	CAPACITOR	0.001μF,50V
C126	QENC1HM-105	NP E CAPACITOR	1μF,50V
C127	QCYA1HK-103	CAPACITOR	0.01μF,50V
C128	QCTA1CH-101	CAPACITOR	100pF,16V
C129	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C130	QFN31HJ-473	M CAPACITOR	0.047μF,50V
C131	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C132	QFN31HJ-104	M CAPACITOR	0.1μF,50V
C133	QFN31HJ-104	M CAPACITOR	0.1μF,50V
C135	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C136	QCYA1HK-102	CAPACITOR	0.001μF,50V
C137	QCYA1HK-102	CAPACITOR	0.001μF,50V
C138	QENC1HM-105	NP E CAPACITOR	1μF,50V
C139	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C140	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C141	QCYA1HK-103	CAPACITOR	0.01μF,50V
C142	QCTA1CH-101	CAPACITOR	100pF,16V
C144	QCYA1HK-103	CAPACITOR	0.01μF,50V
C145	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C146	QFN31HJ-103	M CAPACITOR	0.01μF,50V
C147	QFN31HJ-102	M CAPACITOR	0.001μF,50V
C148	QCYA1HK-103	CAPACITOR	0.01μF,50V
C149	QCYA1HK-103	CAPACITOR	0.01μF,50V
C150	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C151	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
C182	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C183	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C184	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C185	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C186	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C187	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C188	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C189	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C190	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C191	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C192	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C193	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C194	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C195	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C196	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C197	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C198	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C199	QCFA1EZ-104	CAPACITOR	0.1μF,25V

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
C200	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C201	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C202	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C203	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C204	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C205	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C206	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C207	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C208	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C209	QCYA1HK-222	CAPACITOR	0.0022μF,50V
C210	QCYA1HK-222	CAPACITOR	0.0022μF,50V
L1	PGZ00617-221	COIL	
L13	YU41134-101J	COIL	100μH
⚠ CF1	PGZ00513	CERAMIC FILTER	
SW1	QSL0015-L08	DIP SW	
BKT1	PRD30885-01-01	BOARD BRACKET	
⚠ HS1	PRD42009	HEAT SINK, ×2	
SCW1	DPSP3008Z	SCREW, ×4	
SCW2	GBST3008Z	SCREW, ×2	
SKT1	PGZ01724-028	IC SOCKET	
⚠ SPC1	PGZ00150	TR SPACER, ×4	
SPC2	PU60010-2	SPACER, ×2	
TP1	PU54983	TEST PIN, ×27	
CN1	PU58844-3	CONNECTOR	
CN2	PU58844-2	CONNECTOR	
CN3	PU58844-7	CONNECTOR	
CN4	PU58844-4	CONNECTOR	
CN5	PU58844-5	CONNECTOR	
CN6	PU58844-5Y	CONNECTOR	
CN7	PU58844-6	CONNECTOR	
CN8	PU58844-8	CONNECTOR	
CN9	PU58844-4Y	CONNECTOR	
⚠ CP1	ICP-F10	CIRCUIT PROTECTOR	
⚠ CP2	ICP-F10	CIRCUIT PROTECTOR	
⚠ CP3	ICP-F10	CIRCUIT PROTECTOR	
⚠ CP4	ICP-F10	CIRCUIT PROTECTOR	

SENSOR BOARD ASSEMBLY, 525 <52>

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
PWBA	PRK30090A-01	SENSOR BOARD ASSY	
IC1	M5278L05M	I.C.(M)	
IC2	NJM3403AV	I.C.(M)	
IC3	NJM3403AV	I.C.(M)	
IC4	NJM3403AV	I.C.(M)	
IC5	NJM3403AV	I.C.(M)	
Q1	2SB710(QR)	TRANSISTOR	
Q2	2SB710(QR)	TRANSISTOR	
Q3	2SB710(QR)	TRANSISTOR	
Q4	2SB710(QR)	TRANSISTOR	
R1	NRSA63J-334N	RESISTOR	330kΩ,1/16W
R2	NRSA63J-332N	RESISTOR	3.3kΩ,1/16W
R3	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R4	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R5	NRSA63J-334N	RESISTOR	330kΩ,1/16W
R6	NRSA63J-332N	RESISTOR	3.3kΩ,1/16W
R7	NRSA63J-332N	RESISTOR	3.3kΩ,1/16W
R8	NVP1301-102N	V RESISTOR	1kΩ
R9	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R10	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R11	NRSA63J-224N	RESISTOR	220kΩ,1/16W
R12	NRSA63J-224N	RESISTOR	220kΩ,1/16W
R13	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R14	NRSA63J-471N	RESISTOR	470Ω,1/16W
R15	NRSA63J-471N	RESISTOR	470Ω,1/16W
R16	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R17	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R18	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R19	NRSA63J-470N	RESISTOR	47Ω,1/16W
R20	NRSA63J-470N	RESISTOR	47Ω,1/16W
R21	NRSA63J-122N	RESISTOR	1.2kΩ,1/16W
R22	NRSA63J-470N	RESISTOR	47Ω,1/16W
R23	NRSA63J-470N	RESISTOR	47Ω,1/16W
R24	NRSA63J-332N	RESISTOR	3.3kΩ,1/16W
R25	NRSA63J-470N	RESISTOR	47Ω,1/16W
R26	NRSA63J-470N	RESISTOR	47Ω,1/16W
R27	NRSA63J-222N	RESISTOR	2.2kΩ,1/16W
R28	NRSA63J-334N	RESISTOR	330kΩ,1/16W
R29	NRSA63J-332N	RESISTOR	3.3kΩ,1/16W
R30	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R31	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R32	NRSA63J-334N	RESISTOR	330kΩ,1/16W
R33	NRSA63J-332N	RESISTOR	3.3kΩ,1/16W
R34	NRSA63J-332N	RESISTOR	3.3kΩ,1/16W
R35	NVP1301-102N	V RESISTOR	1kΩ
R36	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R37	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R38	NRSA63J-224N	RESISTOR	220kΩ,1/16W
R39	NRSA63J-224N	RESISTOR	220kΩ,1/16W
R40	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R41	NRSA63J-471N	RESISTOR	470Ω,1/16W
R42	NRSA63J-471N	RESISTOR	470Ω,1/16W
R43	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R44	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R45	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R46	NRSA63J-470N	RESISTOR	47Ω,1/16W
R47	NRSA63J-470N	RESISTOR	47Ω,1/16W
R48	NRSA63J-122N	RESISTOR	1.2kΩ,1/16W
R49	NRSA63J-470N	RESISTOR	47Ω,1/16W
R50	NRSA63J-470N	RESISTOR	47Ω,1/16W
R51	NRSA63J-332N	RESISTOR	3.3kΩ,1/16W
R52	NRSA63J-470N	RESISTOR	47Ω,1/16W
R53	NRSA63J-470N	RESISTOR	47Ω,1/16W
R54	NRSA63J-222N	RESISTOR	2.2kΩ,1/16W
R55	NRSA63J-470N	RESISTOR	47Ω,1/16W
R56	NRSA63J-470N	RESISTOR	47Ω,1/16W
R57	NRSA63J-470N	RESISTOR	47Ω,1/16W
R58	NRSA63J-470N	RESISTOR	47Ω,1/16W
C1	NCS31HJ-100A	CAPACITOR	10pF,50V
C2	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C3	NEE21AM-106RY	TANTAL CAPACITOR	10μF,10V
C4	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C5	NCS31HJ-100A	CAPACITOR	10pF,50V
C6	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C7	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C8	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C9	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C10	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C11	NCS31HJ-100A	CAPACITOR	10pF,50V
C12	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C13	NCS31HJ-100A	CAPACITOR	10pF,50V
C14	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C15	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C16	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C17	NCS31HJ-5R0A	CAPACITOR	5pF,50V
C18	NCS31HJ-5R0A	CAPACITOR	5pF,50V
C19	NCS31HJ-5R0A	CAPACITOR	5pF,50V
C20	NCS31HJ-5R0A	CAPACITOR	5pF,50V
C21	NCF31CZ-104A	CAPACITOR	0.1μF,16V
L1	YU41135-221K	COIL	220μH
SPC1	PRD44008	PIN, ×4	
SPC2	PRD43987-01-01	SPACER	
TP1	YU40581	TEST PIN, ×4	

TBC 1 BOARD ASSEMBLY, 525 <60>

PWBA	PRK10055B-03	TBC-1 BOARD ASSY

⚠REF No.	PART No.	PART NAME, DESCRIPTION
STK1	PRD30072-33	STICKER
IC1	UPC78L12T	I.C.(M)
IC2	UPC79N12H	I.C.(M)
IC3	UPC78L05T	I.C.(M)
IC4	UPC78L12T	I.C.(M)
IC5	UPC78L05T	I.C.(M)
IC6	UPC78L12T	I.C.(M)
IC7	UPC78L05T	I.C.(M)
IC8	UPC78L12T	I.C.(M)
IC9	UPC2405HF	I.C.(M)
IC10	UPC78L12T	I.C.(M)
IC11	UPC78L05T	I.C.(M)
IC12	UPC78L05T	I.C.(M)
IC13	UPC78L05T	I.C.(M)
IC14	UPC78L05T	I.C.(M)
IC15	UPC78L12T	I.C.(M)
IC16	UPC78L05T	I.C.(M)
IC17	UPC78L12T	I.C.(M)
IC101	TC4W53F	I.C.(M)
IC102	UPC4082G2	I.C.(M)
IC103	LM6361M	I.C.(M)
IC104	TC4W53F	I.C.(M)
IC105	CXD1175AM-XE	I.C.(M)
IC106	TC74HC74AF	I.C.(M)
IC107	NJM5532M-D-X	I.C.(M)
IC108	CXD1176Q	I.C.(M)
IC109	CXD1176Q	I.C.(M)
IC110	CXD1171M	I.C.(M)
IC111	LM6361M	I.C.(M)
IC112	TC4W53F	I.C.(M)
IC113	UPC4074G2	I.C.(M)
IC301	JCL0008A	I.C.(M)
IC302	CXK1206AM	I.C.(M)
IC303	CXK1206AM	I.C.(M)
IC304	CXK1206AM	I.C.(M)
IC305	CXK1206AM	I.C.(M)
IC307	TC74HC595AF	I.C.(M)
IC308	SN74LS541NS	I.C.(M)
IC309	SN75157PS	I.C.(M)
IC310	M51957BL	I.C.(M)
IC311	TC74HC541AF	I.C.(M)
IC312	TC7W04F	I.C.(M)
IC313	TC7S08F	I.C.(M)
IC314	TC4W53F	I.C.(M)
IC501	UPC4082G2	I.C.(M)
IC502	UPC311G2	I.C.(M)
IC503	TC74HC221AF	I.C.(M)
IC504	CX23065A	I.C.(M)
IC505	TC4053BF	I.C.(M)
⚠ IC506	TC74HC541AF	I.C.(M)
IC507	TC74HC157AF	I.C.(M)
IC508	TC7W08F	I.C.(M)
IC509	TC7S32F	I.C.(M)

#⚠REF No.	PART No.	PART NAME, DESCRIPTION
⚠ IC510	TC74HC163AF	I.C.(M)
IC511	TC74HC86AF	I.C.(M)
IC512	UPC358G2	I.C.(M)
IC513	TC4W53F	I.C.(M)
⚠ IC514	SN75157PS	I.C.(M)
IC515	TC7W04F	I.C.(M)
⚠ IC516	CXD1217M	I.C.(M)
IC517	TC74HC21AF	I.C.(M)
IC518	TC74HC541AF	I.C.(M)
⚠ IC519	CXD1217M	I.C.(M)
⚠ IC701	CXD1171M	I.C.(M)
⚠ IC702	TC7S04F	I.C.(M)
IC703	TC4W53F	I.C.(M)
IC704	UPC4082G2	I.C.(M)
IC705	NJM5532M-D-X	I.C.(M)
⚠ IC706	CXD1171M	I.C.(M)
IC707	TC7W08F	I.C.(M)
IC708	TC7S04F	I.C.(M)
⚠ IC709	M51272FP	I.C.(M)
Q101	2SC2412K(QR)	TRANSISTOR
Q102	2SC2412K(QR)	TRANSISTOR
Q103	2SC2412K(QR)	TRANSISTOR
Q104	2SA1037K(QR)	TRANSISTOR
Q105	2SC2412K(QR)	TRANSISTOR
Q106	2SA1037K(QR)	TRANSISTOR
Q107	2SC2412K(QR)	TRANSISTOR
Q108	2SC2412K(QR)	TRANSISTOR
Q109	2SC2412K(QR)	TRANSISTOR
Q110	2SA1037K(QR)	TRANSISTOR
Q111	2SA1037K(QR)	TRANSISTOR
Q112	2SC2412K(QR)	TRANSISTOR
Q113	2SC2412K(QR)	TRANSISTOR
Q114	2SC2412K(QR)	TRANSISTOR
Q115	2SC2412K(QR)	TRANSISTOR
Q116	2SC2412K(QR)	TRANSISTOR
Q117	2SC2412K(QR)	TRANSISTOR
Q118	2SC2412K(QR)	TRANSISTOR
Q119	2SC2412K(QR)	TRANSISTOR
Q120	2SC2412K(QR)	TRANSISTOR
Q121	2SC2412K(QR)	TRANSISTOR
Q123	2SC2412K(QR)	TRANSISTOR
Q124	2SA1037K(QR)	TRANSISTOR
Q125	2SC2412K(QR)	TRANSISTOR
Q501	2SA1037K(QR)	TRANSISTOR
Q502	DTC124EK	TRANSISTOR
Q701	2SC2412K(QR)	TRANSISTOR
Q703	2SC2412K(QR)	TRANSISTOR
Q704	2SA1037K(QR)	TRANSISTOR
Q705	2SC2412K(QR)	TRANSISTOR
Q706	2SA1037K(QR)	TRANSISTOR
Q707	2SC2412K(QR)	TRANSISTOR
Q709	2SC2412K(QR)	TRANSISTOR
Q710	2SA1037K(QR)	TRANSISTOR
Q711	2SC2412K(QR)	TRANSISTOR

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
Q712	2SA1037K(QR)	TRANSISTOR	
Q713	2SC2412K(QR)	TRANSISTOR	
Q714	2SA1037K(QR)	TRANSISTOR	
Q715	2SC2412K(QR)	TRANSISTOR	
Q716	2SC2412K(QR)	TRANSISTOR	
D101	MA3062(M)	DIODE	
D102	MA3062(M)	DIODE	
D105	DA204K	DIODE	
D303	DAN202K	DIODE	
D701	DAN202K	DIODE	
D702	DAN202K	DIODE	
D703	MA3039	DIODE	
D704	DAN202K	DIODE	
D705	DAN202K	DIODE	
R1	NVP1415-102N	V RESISTOR	1kΩ,1/4W
R2	NVP1415-502N	V RESISTOR	5kΩ,1/4W
R3	NVP1415-102N	V RESISTOR	1kΩ,1/4W
R4	NVP1415-202N	V RESISTOR	2kΩ,1/4W
R5	NVP1415-102N	V RESISTOR	1kΩ,1/4W
R6	NVP1415-202N	V RESISTOR	2kΩ,1/4W
R7	QVPB610-502	V RESISTOR	5kΩ
R8	NVP1415-502N	V RESISTOR	5kΩ,1/4W
R9	QVPB610-202	V RESISTOR	2kΩ
R10	NVP1415-103N	V RESISTOR	10kΩ,1/4W
R12	QVPB610-103	V RESISTOR	10kΩ
R14	QVPB610-102	V RESISTOR	1kΩ
R17	QVPB610-102	V RESISTOR	1kΩ
R18	NVP1415-102N	V RESISTOR	1kΩ,1/4W
R19	QVPB610-102	V RESISTOR	1kΩ
R20	QVPB610-103	V RESISTOR	10kΩ
R21	QVPB610-103	V RESISTOR	10kΩ
R101	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R102	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R103	QRSA08J-393YN	RESISTOR	39kΩ,1/10W
R104	QRSA08J-182YN	RESISTOR	1.8kΩ,1/10W
R105	QRSA08J-563YN	RESISTOR	56kΩ,1/10W
R106	QRSA08J-123YN	RESISTOR	12kΩ,1/10W
R107	QRSA08J-331YN	RESISTOR	330Ω,1/10W
R108	QRSA08J-682YN	RESISTOR	6.8kΩ,1/10W
R109	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
R110	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R111	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R112	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R113	QRSA08J-682YN	RESISTOR	6.8kΩ,1/10W
R114	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R115	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R116	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R117	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R118	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R119	QRSA08J-392YN	RESISTOR	3.9kΩ,1/10W
R120	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
R121	QRSA08J-181YN	RESISTOR	180Ω,1/10W

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R122	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R123	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R124	QRSA08J-821YN	RESISTOR	820Ω,1/10W
R125	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R126	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R127	QRSA08J-392YN	RESISTOR	3.9kΩ,1/10W
R128	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R129	QRSA08J-392YN	RESISTOR	3.9kΩ,1/10W
R130	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R131	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R132	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R133	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R134	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R135	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R136	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
R137	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R138	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R139	QRSA08J-221YN	RESISTOR	220Ω,1/10W
R140	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
R141	QRSA08J-221YN	RESISTOR	220Ω,1/10W
R142	QRSA08J-221YN	RESISTOR	220Ω,1/10W
R143	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R144	QRSA08J-393YN	RESISTOR	39kΩ,1/10W
R145	QRSA08J-182YN	RESISTOR	1.8kΩ,1/10W
R146	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R147	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R148	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R149	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R150	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R151	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R152	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R153	QRSA08J-221YN	RESISTOR	220Ω,1/10W
R154	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
R162	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R163	QRSA08J-393YN	RESISTOR	39kΩ,1/10W
R164	QRSA08J-182YN	RESISTOR	1.8kΩ,1/10W
R165	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R166	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R167	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R168	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R169	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R170	QRSA08J-821YN	RESISTOR	820Ω,1/10W
R171	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R190	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
R191	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R192	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R193	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
R194	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R195	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
R196	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R197	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R198	NRVA62D-201N	RESISTOR	200Ω,1/16W
R199	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R200	QRSA08J-562YN	RESISTOR	5.6kΩ,1/10W
R201	QRSA08J-561YN	RESISTOR	560Ω,1/10W

⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R202	QRSA08J-562YN	RESISTOR	5.6kΩ,1／10W
R203	QRSA08J-181YN	RESISTOR	180Ω,1／10W
R204	QRSA08J-681YN	RESISTOR	680Ω,1／10W
R205	QRSA08J-563YN	RESISTOR	56kΩ,1／10W
R206	QRSA08J-333YN	RESISTOR	33kΩ,1／10W
R207	QRSA08J-152YN	RESISTOR	1.5kΩ,1／10W
R208	QRSA08J-391YN	RESISTOR	390Ω,1／10W
R209	QRSA08J-391YN	RESISTOR	390Ω,1／10W
R210	QRSA08J-152YN	RESISTOR	1.5kΩ,1／10W
R211	QRSA08J-333YN	RESISTOR	33kΩ,1／10W
R212	QRSA08J-563YN	RESISTOR	56kΩ,1／10W
R213	QRSA08J-181YN	RESISTOR	180Ω,1／10W
R214	QRSA08J-272YN	RESISTOR	2.7kΩ,1／10W
R215	QRSA08J-333YN	RESISTOR	33kΩ,1／10W
R216	QRSA08J-473YN	RESISTOR	47kΩ,1／10W
R217	QRSA08J-272YN	RESISTOR	2.7kΩ,1／10W
R218	QRSA08J-391YN	RESISTOR	390Ω,1／10W
R219	QRSA08J-332YN	RESISTOR	3.3kΩ,1／10W
R220	QRSA08J-391YN	RESISTOR	390Ω,1／10W
R221	QRSA08J-181YN	RESISTOR	180Ω,1／10W
R222	QRSA08J-181YN	RESISTOR	180Ω,1／10W
R223	QRSA08J-391YN	RESISTOR	390Ω,1／10W
R224	QRSA08J-102YN	RESISTOR	1kΩ,1／10W
R225	QRSA08J-391YN	RESISTOR	390Ω,1／10W
R226	QRSA08J-181YN	RESISTOR	180Ω,1／10W
R227	QRSA08J-122YN	RESISTOR	1.2kΩ,1／10W
R228	QRSA08J-331YN	RESISTOR	330Ω,1／10W
R229	QRSA08J-181YN	RESISTOR	180Ω,1／10W
R230	QRSA08J-102YN	RESISTOR	1kΩ,1／10W
R231	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R232	QRSA08J-181YN	RESISTOR	180Ω,1／10W
R234	QRSA08J-681YN	RESISTOR	680Ω,1／10W
R235	QRSA08J-181YN	RESISTOR	180Ω,1／10W
R236	QRSA08J-182YN	RESISTOR	1.8kΩ,1／10W
R238	QRSA08J-102YN	RESISTOR	1kΩ,1／10W
R239	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R240	QRSA08J-473YN	RESISTOR	47kΩ,1／10W
R241	QRSA08J-123YN	RESISTOR	12kΩ,1／10W
R242	QRSA08J-392YN	RESISTOR	3.9kΩ,1／10W
R243	QRSA08J-123YN	RESISTOR	12kΩ,1／10W
R244	QRSA08J-562YN	RESISTOR	5.6kΩ,1／10W
R245	QRSA08J-223YN	RESISTOR	22kΩ,1／10W
R246	QRSA08J-472YN	RESISTOR	4.7kΩ,1／10W
R247	QRSA08J-122YN	RESISTOR	1.2kΩ,1／10W
R248	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R249	QRSA08J-122YN	RESISTOR	1.2kΩ,1／10W
R250	QRSA08J-103YN	RESISTOR	10kΩ,1／10W
R251	QRSA08J-103YN	RESISTOR	10kΩ,1／10W
R252	QRSA08J-103YN	RESISTOR	10kΩ,1／10W
R301	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R302	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R303	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R304	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R305	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R306	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R307	QRSA08J-821YN	RESISTOR	820Ω,1／10W
R308	QRSA08J-101YN	RESISTOR	100Ω,1／10W

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R309	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R310	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R311	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R312	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R313	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R314	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R315	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R316	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R317	QRSA08J-473YN	RESISTOR	47kΩ,1／10W
R318	QRSA08J-473YN	RESISTOR	47kΩ,1／10W
R319	QRSA08J-473YN	RESISTOR	47kΩ,1／10W
R320	QRSA08J-473YN	RESISTOR	47kΩ,1／10W
R321	QRSA08J-473YN	RESISTOR	47kΩ,1／10W
R326	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R327	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R328	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R329	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R334	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R336	QRSA08J-222YN	RESISTOR	2.2kΩ,1／10W
R337	QRSA08J-222YN	RESISTOR	2.2kΩ,1／10W
R339	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R340	QRSA08J-272YN	RESISTOR	2.7kΩ,1／10W
R341	QRSA08J-562YN	RESISTOR	5.6kΩ,1／10W
R342	QRSA08J-103YN	RESISTOR	10kΩ,1／10W
R345	QRSA08J-473YN	RESISTOR	47kΩ,1／10W
R346	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R347	QRSA08J-102YN	RESISTOR	1kΩ,1／10W
R348	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R349	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R350	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R351	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R352	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R353	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R354	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R355	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R356	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R357	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R358	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R359	QRSA08J-473YN	RESISTOR	47kΩ,1／10W
R360	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R361	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R362	QRSA08J-473YN	RESISTOR	47kΩ,1／10W
R363	QRSA08J-102YN	RESISTOR	1kΩ,1／10W
R364	QRSA08J-102YN	RESISTOR	1kΩ,1／10W
R365	QRSA08J-102YN	RESISTOR	1kΩ,1／10W
R366	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R367	QRSA08J-0R0Y	RESISTOR	0Ω,1／10W
R368	QRSA08J-0R0Y	RESISTOR	0Ω,1／10W
R369	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R370	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R371	QRSA08J-0R0Y	RESISTOR	0Ω,1／10W
R374	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R391	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R409	QRSA08J-101YN	RESISTOR	100Ω,1／10W

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R410	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R411	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R412	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R413	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R414	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R415	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
R418	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R419	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R428	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R429	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R430	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R501	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
R502	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
R503	QRSA08J-680YN	RESISTOR	68Ω,1/10W
R504	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R505	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R506	QRSA08J-560YN	RESISTOR	56Ω,1/10W
R507	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R508	QRSA08J-681YN	RESISTOR	680Ω,1/10W
R509	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
R510	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R511	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
R512	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R513	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R514	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R515	QRSA08J-153YN	RESISTOR	15kΩ,1/10W
R516	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R517	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R518	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R519	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
R520	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R521	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R522	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R523	QRSA08J-221YN	RESISTOR	220Ω,1/10W
R524	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
R525	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R526	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R527	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R528	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
R529	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R530	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R531	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R532	QRSA08J-822YN	RESISTOR	8.2kΩ,1/10W
R533	QRSA08J-392YN	RESISTOR	3.9kΩ,1/10W
R534	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R535	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R536	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R537	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R538	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R539	QRSA08J-105YN	RESISTOR	1MΩ,1/10W
R540	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R541	QRSA08J-105YN	RESISTOR	1MΩ,1/10W
R542	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R543	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R544	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R545	QRSA08J-105YN	RESISTOR	1MΩ,1/10W

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R546	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R547	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R548	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R549	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R550	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R551	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R552	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R553	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R555	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R556	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R709	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
R710	NRVA62D-201N	RESISTOR	200Ω,1/16W
R711	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R712	QRSA08J-683YN	RESISTOR	68kΩ,1/10W
R713	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R714	QRSA08J-391YN	RESISTOR	390Ω,1/10W
R715	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R716	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R717	QRSA08J-391YN	RESISTOR	390Ω,1/10W
R720	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R721	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R722	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R723	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R724	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R725	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R726	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R727	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
R728	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R730	NRVA62D-331N	RESISTOR	330Ω,1/16W
R733	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
R734	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R735	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R736	QRSA08J-123YN	RESISTOR	12kΩ,1/10W
R737	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
R738	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R739	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R740	QRSA08J-562YN	RESISTOR	5.6kΩ,1/10W
R741	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R742	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R743	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R744	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R745	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R746	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R747	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R748	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R749	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
R750	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R759	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
R760	NRVA62D-201N	RESISTOR	200Ω,1/16W
R761	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R762	QRSA08J-563YN	RESISTOR	56kΩ,1/10W
R763	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R764	QRSA08J-391YN	RESISTOR	390Ω,1/10W
R767	QRSA08J-391YN	RESISTOR	390Ω,1/10W
R770	QRSA08J-181YN	RESISTOR	180Ω,1/10W

⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R771	QRSA08J-222YN	RESISTOR	2.2kΩ,1／10W
R774	QRSA08J-181YN	RESISTOR	180Ω,1／10W
R775	QRSA08J-181YN	RESISTOR	180Ω,1／10W
R776	QRSA08J-181YN	RESISTOR	180Ω,1／10W
R777	QRSA08J-122YN	RESISTOR	1.2kΩ,1／10W
R778	QRSA08J-102YN	RESISTOR	1kΩ,1／10W
R780	NRVA62D-331N	RESISTOR	330Ω,1／16W
R781	QRSA08J-331YN	RESISTOR	330Ω,1／10W
R782	QRSA08J-331YN	RESISTOR	330Ω,1／10W
R783	QRSA08J-102YN	RESISTOR	1kΩ,1／10W
R784	QRSA08J-102YN	RESISTOR	1kΩ,1／10W
R785	QRSA08J-103YN	RESISTOR	10kΩ,1／10W
R786	QRSA08J-153YN	RESISTOR	15kΩ,1／10W
R787	QRSA08J-223YN	RESISTOR	22kΩ,1／10W
R788	NRVA62D-222N	RESISTOR	2.2kΩ,1／16W
R789	NRVA62D-471N	RESISTOR	470Ω,1／16W
R790	QRSA08J-153YN	RESISTOR	15kΩ,1／10W
R791	QRSA08J-223YN	RESISTOR	22kΩ,1／10W
R792	NRVA62D-471N	RESISTOR	470Ω,1／16W
R793	NRVA62D-222N	RESISTOR	2.2kΩ,1／16W
R794	QRSA08J-102YN	RESISTOR	1kΩ,1／10W
R795	NRVA62D-102N	RESISTOR	1kΩ,1／16W
R796	QRSA08J-473YN	RESISTOR	47kΩ,1／10W
R797	QRSA08J-153YN	RESISTOR	15kΩ,1／10W
R798	QRSA08J-222YN	RESISTOR	2.2kΩ,1／10W
R799	NRVA62D-102N	RESISTOR	1kΩ,1／16W
R800	NRVA62D-122N	RESISTOR	1.2kΩ,1／16W
R801	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R802	QRSA08J-181YN	RESISTOR	180Ω,1／10W
R803	QRSA08J-821YN	RESISTOR	820Ω,1／10W
R804	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R807	QRSA08J-333YN	RESISTOR	33kΩ,1／10W
R808	QRSA08J-102YN	RESISTOR	1kΩ,1／10W
R809	NRVA62D-472N	RESISTOR	4.7kΩ,1／16W
R810	NRVA62D-432N	RESISTOR	4.3kΩ,1／16W
R811	QRSA08J-105YN	RESISTOR	1MΩ,1／10W
R812	QRSA08J-105YN	RESISTOR	1MΩ,1／10W
RA101	NRB082J-101NV	NETWORK RESISTOR	100Ω,8W
RA102	NRB082J-101NV	NETWORK RESISTOR	100Ω,8W
RA103	NRB082J-101NV	NETWORK RESISTOR	100Ω,8W
RA104	NRB082J-101NV	NETWORK RESISTOR	100Ω,8W
RA301	EXB-P88103M	NETWORK RESISTOR	
RA302	EXB-P88103M	NETWORK RESISTOR	
RA501	NRB082J-101NV	NETWORK RESISTOR	100Ω,8W
RA701	NRB082J-101NV	NETWORK RESISTOR	100Ω,8W
RA702	NRB082J-101NV	NETWORK RESISTOR	100Ω,8W
C101	QETC1EM-107	E CAPACITOR	100μF,25V
C102	QETC1CM-107	E CAPACITOR	100μF,16V
C103	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C104	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C105	QETC1CM-107	E CAPACITOR	100μF,16V

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
C106	QETC1AM-107	E CAPACITOR	100μF,10V
C107	QETC1AM-107	E CAPACITOR	100μF,10V
C108	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C109	NEH11CM-106N	E CAPACITOR	10μF,16V
C110	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C111	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C112	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C113	NFV21CJ-102AY	TF CAPACITOR	0.001μF,16V
C114	NFV21CJ-472AY	TF CAPACITOR	0.0047μF,16V
C115	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C116	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C117	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C118	QCTA1CH-180	CAPACITOR	18pF,16V
C119	QCTA1CH-2R0	CAPACITOR	2pF,16V
C120	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C121	QETC0JM-107	E CAPACITOR	100μF,6.3V
C122	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C123	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C124	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C125	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C126	QEK61CM-106	E CAPACITOR	10μF,16V
C127	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C128	QEF81AM-475	TANTAL CAPACITOR	4.7μF,10V
C129	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C130	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C131	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C132	QETC0JM-107	E CAPACITOR	100μF,6.3V
C133	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C134	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C135	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C136	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C137	QETC1CM-107	E CAPACITOR	100μF,16V
C138	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C139	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C140	QETC1CM-107	E CAPACITOR	100μF,16V
C141	QETC1AM-107	E CAPACITOR	100μF,10V
C142	QETC0JM-107	E CAPACITOR	100μF,6.3V
C143	QETC1CM-476	E CAPACITOR	47μF,16V
C144	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C145	QCTA1CH-330	CAPACITOR	33pF,16V
C146	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C147	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C148	QETC1AM-107	E CAPACITOR	100μF,10V
C149	QEF81AM-475	TANTAL CAPACITOR	4.7μF,10V
C150	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C151	NEH11CM-106N	E CAPACITOR	10μF,16V
C152	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C153	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C154	NFV21CJ-103AY	TF CAPACITOR	0.01μF,16V
C155	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C156	QEF81AM-475	TANTAL CAPACITOR	4.7μF,10V
C157	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C158	QETC1AM-107	E CAPACITOR	100μF,10V
C159	QETC0JM-107	E CAPACITOR	100μF,6.3V
C160	QETC1CM-476	E CAPACITOR	47μF,16V
C161	QCTA1CH-330	CAPACITOR	33pF,16V
C162	NEH11CM-106N	E CAPACITOR	10μF,16V

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
C163	QEF81AM-475	TANTAL CAPACITOR	4.7 μ F,10V
C164	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C165	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C166	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C167	NFV21CJ-103AY	CHIP.T F CAP	0.01 μ F,16V
C168	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C169	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C170	QEF81AM-475	TANTAL CAPACITOR	4.7 μ F,10V
C171	QEF81AM-475	TANTAL CAPACITOR	4.7 μ F,10V
C172	QEF81AM-475	TANTAL CAPACITOR	4.7 μ F,10V
C173	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C174	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C175	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C176	QETC1AM-107	E CAPACITOR	100 μ F,10V
C177	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C178	QEF81AM-475	TANTAL CAPACITOR	4.7 μ F,10V
C179	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C180	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C181	QCTA1CH-101	CAPACITOR	100pF,16V
C182	QEF81CM-475	TANTAL CAPACITOR	4.7 μ F,16V
C183	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C184	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C185	QETC1CM-107	E CAPACITOR	100 μ F,16V
C186	QETC0JM-107	E CAPACITOR	100 μ F,6.3V
C187	QETC1AM-107	E CAPACITOR	100 μ F,10V
C188	QETC1AM-476	E CAPACITOR	47 μ F,10V
C189	QETC0JM-107	E CAPACITOR	100 μ F,6.3V
C190	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C191	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C192	QETC1AM-107	E CAPACITOR	100 μ F,10V
C193	QCSA1HJ-681	CAPACITOR	680pF,50V
C194	QETC1AM-107	E CAPACITOR	100 μ F,10V
C195	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C196	QETC0JM-107	E CAPACITOR	100 μ F,6.3V
C197	NEH11CM-106N	E CAPACITOR	10 μ F,16V
C198	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C199	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C200	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C201	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C202	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C203	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C204	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C205	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C206	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C207	NEH11CM-106N	E CAPACITOR	10 μ F,16V
C208	QCSA1HJ-221	CAPACITOR	220pF,50V
C209	QCSA1HJ-221	CAPACITOR	220pF,50V
C211	QCSA1HJ-471	CAPACITOR	470pF,50V
C213	QCYA1HK-222	CAPACITOR	0.0022 μ F,50V
C214	QCYA1HK-222	CAPACITOR	0.0022 μ F,50V
C215	QCYA1HK-222	CAPACITOR	0.0022 μ F,50V
C216	QCYA1HK-222	CAPACITOR	0.0022 μ F,50V
C217	QCYA1HK-222	CAPACITOR	0.0022 μ F,50V
C301	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C302	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C303	QETC1AM-107	E CAPACITOR	100 μ F,10V
C304	QEF81AM-475	TANTAL CAPACITOR	4.7 μ F,10V

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
C305	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C306	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C307	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C308	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C309	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C310	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C311	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C312	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C313	QCSA1HJ-100	CAPACITOR	10pF,50V
C314	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C315	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C316	QEF81AM-475	TANTAL CAPACITOR	4.7 μ F,10V
C317	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C318	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C319	QEF81AM-475	TANTAL CAPACITOR	4.7 μ F,10V
C320	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C321	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C322	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C323	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C324	QCTA1CH-221	CAPACITOR	220pF,16V
⚠ C326	QCSA1HJ-560	CAPACITOR	56pF,50V
C334	QCTA1CH-101	CAPACITOR	100pF,16V
C335	QCTA1CH-101	CAPACITOR	100pF,16V
C501	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C502	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C503	QEK61CM-107	E CAPACITOR	100 μ F,16V
C504	QCSA1HJ-3R0	CAPACITOR	3pF,50V
C505	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C506	NFV31CJ-102AY	TF CAPACITOR	0.001 μ F,16V
C507	NEH11CM-106N	E CAPACITOR	10 μ F,16V
C508	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C509	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C510	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C511	QEK61AM-107	E CAPACITOR	100 μ F,10V
C512	NFV31CJ-102AY	TF CAPACITOR	0.001 μ F,16V
C513	NFV31CJ-102AY	TF CAPACITOR	0.001 μ F,16V
C514	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C515	NFV31CJ-104AY	TF CAPACITOR	0.1 μ F,16V
C516	QEPC0JM-476	NP E CAPACITOR	47 μ F,6.3V
C517	QCTA1CH-391	CAPACITOR	390pF,16V
C518	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C519	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C520	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C521	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C522	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C523	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C524	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C525	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C526	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C527	QETC1AM-107	E CAPACITOR	100 μ F,10V
C528	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C529	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C530	QEF81AM-105	TANTAL CAPACITOR	1 μ F,10V
C531	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C532	NFV31CJ-104AY	TF CAPACITOR	0.1 μ F,16V
C533	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V

⚠REF No.	PART No.	PART NAME, DESCRIPTION	
C534	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C535	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C536	QEF81AM-475	TANTAL CAPACITOR	4.7 μ F,10V
C537	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C538	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C539	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C540	QETC1AM-107	E CAPACITOR	100 μ F,10V
C541	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C542	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C543	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C544	QEF81AM-105	TANTAL CAPACITOR	1 μ F,10V
C545	NEH11CM-106N	E CAPACITOR	10 μ F,16V
C546	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C547	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C548	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C549	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C550	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C551	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C553	QCSA1HJ-101	CAPACITOR	100pF,50V
C554	QCSA1HJ-101	CAPACITOR	100pF,50V
C555	QCFA1HZ-104	CAPACITOR	0.1 μ F,50V
C556	NFV31CJ-102AY	TF CAPACITOR	0.001 μ F,16V
C557	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C558	QCTA1CH-101	CAPACITOR	100pF,16V
C559	QCTA1CH-101	CAPACITOR	100pF,16V
C560	QCTA1CH-101	CAPACITOR	100pF,16V
C561	QCTA1CH-101	CAPACITOR	100pF,16V
C562	QCTA1CH-101	CAPACITOR	100pF,16V
C563	QCTA1CH-101	CAPACITOR	100pF,16V
C701	QCYA1EK-104	CAPACITOR	0.1 μ F,25V
C702	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C703	QCYA1EK-104	CAPACITOR	0.1 μ F,25V
C704	QETC1AM-476	E CAPACITOR	47 μ F,10V
C705	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C706	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C707	QETC1AM-476	E CAPACITOR	47 μ F,10V
C708	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C709	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C710	QETC1AM-107	E CAPACITOR	100 μ F,10V
C712	QETC0JM-107	E CAPACITOR	100 μ F,6.3V
C713	QETC0JM-107	E CAPACITOR	100 μ F,6.3V
C714	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C715	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C716	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C717	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C718	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C719	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C720	QETC1AM-107	E CAPACITOR	100 μ F,10V
C721	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C722	QEF81AM-475	TANTAL CAPACITOR	4.7 μ F,10V
C723	QEF81AM-475	TANTAL CAPACITOR	4.7 μ F,10V
C724	QCTA1CH-120	CAPACITOR	12pF,16V
C725	QETC1AM-107	E CAPACITOR	100 μ F,10V
C726	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C727	QETC1AM-107	E CAPACITOR	100 μ F,10V
C728	QCTA1CH-330	CAPACITOR	33pF,16V
C729	QETC1AM-107	E CAPACITOR	100 μ F,10V

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
C730	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C731	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C732	QCYA1EK-104	CAPACITOR	0.1 μ F,25V
C733	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C734	QCYA1EK-104	CAPACITOR	0.1 μ F,25V
C735	QETC1AM-476	E CAPACITOR	47 μ F,10V
C736	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C737	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C738	QETC1AM-476	E CAPACITOR	47 μ F,10V
C739	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C740	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C741	QETC1AM-107	E CAPACITOR	100 μ F,10V
C744	QETC0JM-107	E CAPACITOR	100 μ F,6.3V
C745	QETC1CM-107	E CAPACITOR	100 μ F,16V
C746	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C747	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C748	QCSA1HJ-271	CAPACITOR	270pF,50V
C749	QCSA1HJ-820	CAPACITOR	82pF,50V
C750	QCSA1HJ-180	CAPACITOR	18pF,50V
C751	QCSA1HJ-101	CAPACITOR	100pF,50V
C752	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C753	QETC1AM-107	E CAPACITOR	100 μ F,10V
C754	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C755	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C756	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C757	QETC1AM-476	E CAPACITOR	47 μ F,10V
C758	QFV71HJ-474	TF CAPACITOR	0.47 μ F,50V
C759	NEH11CM-106N	E CAPACITOR	10 μ F,16V
C760	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C761	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C762	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C763	QETC1AM-476	E CAPACITOR	47 μ F,10V
C764	QFV71HJ-474	TF CAPACITOR	0.47 μ F,50V
C765	NEH11CM-106N	E CAPACITOR	10 μ F,16V
C766	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C767	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C768	QETC1AM-476	E CAPACITOR	47 μ F,10V
C769	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C770	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C771	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C772	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C773	QETC1CM-107	E CAPACITOR	100 μ F,16V
C774	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C775	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C776	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C777	QCSA1HJ-101	CAPACITOR	100pF,50V
C778	QCSA1HJ-390	CAPACITOR	39pF,50V
C779	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C780	QCTA1CH-4R0	CAPACITOR	4pF,16V
C782	QCYA1HK-222	CAPACITOR	0.0022 μ F,50V
C783	QCYA1HK-222	CAPACITOR	0.0022 μ F,50V
L701	YU41134-121J	COIL	120 μ H
L702	YU41134-560JY	COIL	56 μ H
L703	YU41134-3R9MY	COIL	3.9 μ H

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	LPF1	PGZ01432	LOW PASS FILTER
	LPF2	PGZ01433	LOW PASS FILTER, LPF701
	LPF3	PGZ01433	LOW PASS FILTER, LPF702
	BPF1	PGZ01528	BAND PASS FILTER, BPF701
	DL1	PGZ00545	DELAY LINE
⚠	X1	PGZ01522	CRYSTAL RESONATOR
⚠	X2	PGZ01523	VCXO
	SW1	QSRA002-L02	DIP SW
	SW2	QSS1K41-L01	DIP SW
	SW3	PU54440	SWITCH, × 2
⚠	K101	PGZ01693-009Z	FERRITE BEADS
⚠	K108	PGZ01693-009Z	FERRITE BEADS
⚠	K110	PGZ01693-009Z	FERRITE BEADS
⚠	K112	PGZ01693-009Z	FERRITE BEADS
⚠	K114	PGZ01693-009Z	FERRITE BEADS
⚠	K116	PGZ01693-009Z	FERRITE BEADS
⚠	K117	PGZ01693-009Z	FERRITE BEADS
⚠	K302	PGZ01693-009Z	FERRITE BEADS
⚠	K303	PGZ01693-009Z	FERRITE BEADS
⚠	K304	PGZ01693-009Z	FERRITE BEADS
⚠	K305	PGZ01693-009Z	FERRITE BEADS
⚠	K306	PGZ01693-009Z	FERRITE BEADS
⚠	K307	PGZ01693-009Z	FERRITE BEADS
⚠	K308	PGZ01693-009Z	FERRITE BEADS
⚠	K309	PGZ01693-009Z	FERRITE BEADS
⚠	K310	PGZ01693-009Z	FERRITE BEADS
⚠	K311	PGZ01693-009Z	FERRITE BEADS
⚠	K312	PGZ01693-009Z	FERRITE BEADS
⚠	K313	PGZ01693-009Z	FERRITE BEADS
⚠	K314	PGZ01693-005Z	FERRITE BEADS
⚠	K315	PGZ01693-005Z	FERRITE BEADS
⚠	K316	PGZ01693-005Z	FERRITE BEADS
⚠	K317	PGZ01693-005Z	FERRITE BEADS
⚠	K323	PGZ01693-009Z	FERRITE BEADS
⚠	K324	PGZ01693-009Z	FERRITE BEADS
⚠	K501	PGZ01693-009Z	FERRITE BEADS
⚠	K502	PGZ01693-009Z	FERRITE BEADS
⚠	K503	PGZ01693-009Z	FERRITE BEADS
⚠	K504	PGZ01693-005Z	FERRITE BEADS
⚠	K505	PGZ01693-005Z	FERRITE BEADS
⚠	K516	PGZ01693-009Z	FERRITE BEADS
⚠	K701	PGZ01693-009Z	FERRITE BEADS
⚠	K702	PGZ01693-009Z	FERRITE BEADS
⚠	K703	PGZ01693-009Z	FERRITE BEADS
⚠	K704	PGZ01693-009Z	FERRITE BEADS
⚠	K705	PGZ01693-009Z	FERRITE BEADS
⚠	K706	PGZ01693-009Z	FERRITE BEADS
⚠	K707	PGZ01693-009Z	FERRITE BEADS
⚠	K708	PGZ01693-009Z	FERRITE BEADS
⚠	K709	PGZ01693-009Z	FERRITE BEADS
⚠	K710	PGZ01693-009Z	FERRITE BEADS
⚠	K712	PGZ01693-009Z	FERRITE BEADS
⚠	KA301	PGZ01692-001Z	FERRITE BEADS
⚠	KA302	PGZ01692-001Z	FERRITE BEADS
⚠	KA303	PGZ01692-001Z	FERRITE BEADS
⚠	KA304	PGZ01692-001Z	FERRITE BEADS
⚠	KA305	PGZ01692-001Z	FERRITE BEADS
⚠	KA306	PGZ01692-001Z	FERRITE BEADS
	EJ1	PGZ00582	EJECTOR, × 2
	RV1	PU53276	PLASTIC RIVET, × 4
	SLD1	PRD30781-01-03	SHIELD PLATE
	GND1	PGZ00587-00	TEST POINT, × 7(GND1-7)
	TP1	PGZ01015	TEST PIN, × 14(TP1-14)
	CN1	PGZ00421-44	MALE CONNECTOR
	CN2	PGZ00421-44	MALE CONNECTOR
	CN3	PGZ01518-100	HALF PITCH CONNECTOR
⚠	CP1	ICP-F10	CIRCUIT PROTECTOR
⚠	CP2	ICP-F20	CIRCUIT PROTECTOR

- TBC 1 SUB BOARD ASSEMBLY, 525 -

PWBA	PRK20242A	TBC-1 SUB BOARD ASSY	
R253	QRSA08J-272YN	RESISTOR	2.7kΩ,1/10W
C218	QCSA1HJ-680	CAPACITOR	68pF,50V
C730	QCFA1HZ-103	CAPACITOR	0.01μF,50V

TBC 2 BOARD ASSEMBLY, 525 <61>

PWBA	PRK10110C	TBC-2 BOARD ASSY	

REF No.	PART No.	PART NAME, DESCRIPTION
STK1	PRD30072-34	STICKER
IC1	UPC78L12T	I.C.(M)
IC2	UPC78L05T	I.C.(M)
IC3	UPC78L05T	I.C.(M)
IC4	UPC78L05T	I.C.(M)
IC5	UPC78L12T	I.C.(M)
IC6	UPC78L05T	I.C.(M)
IC7	UPC78L12T	I.C.(M)
IC8	UPC78L12T	I.C.(M)
IC9	UPC78L05T	I.C.(M)
IC10	UPC78L12T	I.C.(M)
IC11	UPC78L12T	I.C.(M)
IC101	TC74HC4053AF	I.C.(M)
IC102	NJM5532M-D-X	I.C.(M)
IC103	M51279FP	I.C.(M)
IC104	UPC319G2	I.C.(M)
IC105	TC74HC4066AF	I.C.(M)
IC106	UPC4074G2	I.C.(M)
IC107	UPC358G2	I.C.(M)
IC108	TC4W66F	I.C.(M)
IC109	UPC358G2	I.C.(M)
IC110	TC74HC4538AF	I.C.(M)
IC111	TC74HC74AF	I.C.(M)
IC112	TC74HC4538AF	I.C.(M)
IC113	TC74HC4538AF	I.C.(M)
IC114	TC74HC4538AF	I.C.(M)
IC115	UPC4082G2	I.C.(M)
IC116	TC4W53F	I.C.(M)
IC117	TC74HC4538AF	I.C.(M)
IC118	TC7S04F	I.C.(M)
IC119	TC74HC4538AF	I.C.(M)
IC120	TC4W53F	I.C.(M)
IC301	LM6361M	I.C.(M)
IC302	AN6308S	I.C.(M)
IC303	AN6308S	I.C.(M)
IC304	LM6361M	I.C.(M)
IC305	NJM5532M-D-X	I.C.(M)
IC306	AN6308S	I.C.(M)
IC307	AN6308S	I.C.(M)
IC308	NJM5532M-D-X	I.C.(M)
IC309	AN6308S	I.C.(M)
IC310	AN6308S	I.C.(M)
IC311	SN16913P	I.C.(M)
IC312	UPC319G2	I.C.(M)
Q101	2SC2412K(QR)	TRANSISTOR
Q102	2SK621	FE TRANSISTOR
Q103	2SC2412K(QR)	TRANSISTOR
Q104	2SC2412K(QR)	TRANSISTOR
Q105	2SA1037K(QR)	TRANSISTOR
Q106	2SC2412K(QR)	TRANSISTOR
Q107	2SA1037K(QR)	TRANSISTOR
Q108	2SC2412K(QR)	TRANSISTOR

#△REF No.	PART No.	PART NAME, DESCRIPTION	
Q109	2SA1037K(QR)	TRANSISTOR	
Q110	2SC2412K(QR)	TRANSISTOR	
Q111	2SA1037K(QR)	TRANSISTOR	
Q112	2SC2412K(QR)	TRANSISTOR	
Q113	2SC2412K(QR)	TRANSISTOR	
Q114	2SA1037K(QR)	TRANSISTOR	
Q115	2SC2412K(QR)	TRANSISTOR	
Q116	2SA1037K(QR)	TRANSISTOR	
Q117	2SC2412K(QR)	TRANSISTOR	
Q118	2SC2412K(QR)	TRANSISTOR	
Q119	2SA1037K(QR)	TRANSISTOR	
Q120	2SC2412K(QR)	TRANSISTOR	
Q121	2SA1037K(QR)	TRANSISTOR	
Q122	2SC2412K(QR)	TRANSISTOR	
Q123	2SC2412K(QR)	TRANSISTOR	
Q124	2SK621	FE TRANSISTOR	
Q301	2SA1037K(QR)	TRANSISTOR	
Q302	2SC2412K(QR)	TRANSISTOR	
Q303	2SC2412K(QR)	TRANSISTOR	
Q304	2SA1037K(QR)	TRANSISTOR	
Q305	2SC2412K(QR)	TRANSISTOR	
Q306	2SA1037K(QR)	TRANSISTOR	
Q307	2SC2412K(QR)	TRANSISTOR	
Q308	2SC2412K(QR)	TRANSISTOR	
Q309	2SC2412K(QR)	TRANSISTOR	
Q310	2SA1037K(QR)	TRANSISTOR	
Q311	2SC2412K(QR)	TRANSISTOR	
Q312	2SC2412K(QR)	TRANSISTOR	
Q313	2SC2412K(QR)	TRANSISTOR	
Q314	2SC2412K(QR)	TRANSISTOR	
Q315	2SC2412K(QR)	TRANSISTOR	
Q316	2SA1037K(QR)	TRANSISTOR	
Q317	2SC2412K(QR)	TRANSISTOR	
Q318	2SC2412K(QR)	TRANSISTOR	
Q319	2SC2412K(QR)	TRANSISTOR	
Q320	2SC2412K(QR)	TRANSISTOR	
Q321	2SC2412K(QR)	TRANSISTOR	
Q322	2SA1037K(QR)	TRANSISTOR	
Q323	2SC2412K(QR)	TRANSISTOR	
Q324	2SC2412K(QR)	TRANSISTOR	
Q325	2SC2412K(QR)	TRANSISTOR	
Q326	2SC2412K(QR)	TRANSISTOR	
Q327	2SK621	FE TRANSISTOR	
Q328	2SC2412K(QR)	TRANSISTOR	
Q329	2SC2412K(QR)	TRANSISTOR	
Q330	2SC2412K(QR)	TRANSISTOR	
Q331	2SC2412K(QR)	TRANSISTOR	
Q332	2SC2412K(QR)	TRANSISTOR	
Q333	2SC2412K(QR)	TRANSISTOR	
D101	DAP202K	DIODE	
D102	DAP202K	DIODE	
D103	DAP202K	DIODE	
R2	NVP1415-202N	V RESISTOR	2kΩ,1/4W

6 1

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R3	QVPB610-501	V RESISTOR	500Ω
R4	NVP1415-202N	V RESISTOR	2kΩ,1/4W
R5	QVPB610-501	V RESISTOR	500Ω
R6	NVP1415-103N	V RESISTOR	10kΩ,1/4W
R7	NVP1415-103N	V RESISTOR	10kΩ,1/4W
R8	QVPB610-103	V RESISTOR	10kΩ
R9	QVPB610-103	V RESISTOR	10kΩ
R11	NVP1415-202N	V RESISTOR	2kΩ,1/4W
R21	QVPB610-501	V RESISTOR	500Ω
R22	NVP1415-202N	V RESISTOR	2kΩ,1/4W
R23	QVPB610-102	V RESISTOR	1kΩ
R24	NVP1415-202N	V RESISTOR	2kΩ,1/4W
R25	QVPB610-102	V RESISTOR	1kΩ
R26	QVPB610-202	V RESISTOR	2kΩ
R27	NVP1415-202N	V RESISTOR	2kΩ,1/4W
R28	NVP1415-103N	V RESISTOR	10kΩ,1/4W
R101	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R102	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R103	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R104	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R105	QRSA08J-471YN	RESISTOR	470Ω,1/10W
R106	QRSA08J-681YN	RESISTOR	680Ω,1/10W
R107	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R108	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R110	QRSA08J-681YN	RESISTOR	680Ω,1/10W
R111	QRSA08J-681YN	RESISTOR	680Ω,1/10W
R112	QRSA08J-681YN	RESISTOR	680Ω,1/10W
R113	QRSA08J-681YN	RESISTOR	680Ω,1/10W
R114	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R115	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
R116	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
R117	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R118	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
R119	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
R120	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
R121	QRSA08J-821YN	RESISTOR	820Ω,1/10W
R122	QRSA08J-821YN	RESISTOR	820Ω,1/10W
R123	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R124	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R125	QRSA08J-681YN	RESISTOR	680Ω,1/10W
R126	QRSA08J-681YN	RESISTOR	680Ω,1/10W
R127	NRVA62D-102N	RESISTOR	1kΩ,1/16W
R128	QRSA08J-221YN	RESISTOR	220Ω,1/10W
R129	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R130	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R131	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R132	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
R133	QRSA08J-821YN	RESISTOR	820Ω,1/10W
R134	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R135	QRSA08J-471YN	RESISTOR	470Ω,1/10W
R136	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
R137	QRSA08J-821YN	RESISTOR	820Ω,1/10W
R138	QRSA08J-821YN	RESISTOR	820Ω,1/10W
R139	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R140	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R141	QRSA08J-681YN	RESISTOR	680Ω,1/10W
R142	QRSA08J-681YN	RESISTOR	680Ω,1/10W
R143	NRVA62D-102N	RESISTOR	1kΩ,1/16W
R144	NRVA62D-821N	RESISTOR	820Ω,1/16W
R145	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R146	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R147	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R148	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
R149	QRSA08J-821YN	RESISTOR	820Ω,1/10W
R150	QRSA08J-471YN	RESISTOR	470Ω,1/10W
R151	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R152	QRSA08J-823YN	RESISTOR	82kΩ,1/10W
R153	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
R154	QRSA08J-474YN	RESISTOR	470kΩ,1/10W
R155	QRSA08J-684YN	RESISTOR	680kΩ,1/10W
R156	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R159	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R160	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R161	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R163	QRSA08J-393YN	RESISTOR	39kΩ,1/10W
R164	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R165	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R166	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R167	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
R168	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R169	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
R170	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
R171	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R172	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R173	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
R174	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R175	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R176	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R177	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R178	QRSA08J-221YN	RESISTOR	220Ω,1/10W
R179	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R180	QRSA08J-331YN	RESISTOR	330Ω,1/10W
R181	QRSA08J-101YN	RESISTOR	100Ω,1/10W
R182	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R183	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R184	QRSA08J-562YN	RESISTOR	5.6kΩ,1/10W
R185	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
R186	QRSA08J-392YN	RESISTOR	3.9kΩ,1/10W
R187	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R188	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R189	NRVA62D-682N	RESISTOR	6.8kΩ,1/16W
R190	NRVA62D-332N	RESISTOR	3.3kΩ,1/16W
R191	NRVA62D-153N	RESISTOR	15kΩ,1/16W
R192	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R193	NRVA62D-102N	RESISTOR	1kΩ,1/16W
R194	NRVA62D-103N	RESISTOR	10kΩ,1/16W
R195	NRVA62D-103N	RESISTOR	10kΩ,1/16W
R196	NRVA62D-103N	RESISTOR	10kΩ,1/16W
R199	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
R200	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R202	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
R205	QRSA08J-182YN	RESISTOR	1.8kΩ,1/10W
R206	QRSA08J-102YN	RESISTOR	1kΩ,1/10W

⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R207	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R208	QRSA08J-681YN	RESISTOR	680Ω,1/10W
R209	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R210	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
R212	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
R213	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
R214	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
R217	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R218	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R219	QRSA08J-221YN	RESISTOR	220Ω,1/10W
R220	QRSA08J-221YN	RESISTOR	220Ω,1/10W
R223	NRVA62D-102N	RESISTOR	1kΩ,1/16W
R224	NRVA62D-682N	RESISTOR	6.8kΩ,1/16W
R226	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R227	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R228	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R230	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
R231	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
R232	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R233	QRSA08J-682YN	RESISTOR	6.8kΩ,1/10W
R234	QRSA08J-153YN	RESISTOR	15kΩ,1/10W
R235	QRSA08J-471YN	RESISTOR	470Ω,1/10W
R236	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
R237	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R238	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R239	QRSA08J-471YN	RESISTOR	470Ω,1/10W
R240	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R241	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R242	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R243	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R244	NRVA62D-153N	RESISTOR	15kΩ,1/16W
R245	QRSA08J-563YN	RESISTOR	56kΩ,1/10W
R246	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R247	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
R301	QRSA08J-563YN	RESISTOR	56kΩ,1/10W
R302	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R303	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R304	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R305	QRSA08J-821YN	RESISTOR	820Ω,1/10W
R306	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R307	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R308	QRSA08J-391YN	RESISTOR	390Ω,1/10W
R309	QRSA08J-391YN	RESISTOR	390Ω,1/10W
R310	QRSA08J-821YN	RESISTOR	820Ω,1/10W
R311	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R312	QRSA08J-563YN	RESISTOR	56kΩ,1/10W
R313	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R314	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R315	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R316	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R317	QRSA08J-121YN	RESISTOR	120Ω,1/10W
R318	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R319	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R320	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R321	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R322	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R323	QRSA08J-821YN	RESISTOR	820Ω,1/10W
R324	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R325	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
R326	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
R327	QRSA08J-391YN	RESISTOR	390Ω,1/10W
R328	QRSA08J-391YN	RESISTOR	390Ω,1/10W
R329	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
R330	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R331	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R332	QRD161J-0R0	RESISTOR	0Ω,1/6W
R333	QRD161J-102	RESISTOR	1kΩ,1/6W
R334	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R335	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R336	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
R337	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R338	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R339	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R340	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R341	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R342	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R343	QRSA08J-821YN	RESISTOR	820Ω,1/10W
R344	QRSA08J-821YN	RESISTOR	820Ω,1/10W
R345	QRSA08J-821YN	RESISTOR	820Ω,1/10W
R346	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R347	QRD161J-750	RESISTOR	75Ω,1/6W
R348	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R349	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R350	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R351	NRVA62D-821N	RESISTOR	820Ω,1/16W
R352	NRVA62D-821N	RESISTOR	820Ω,1/16W
R353	NRVA62D-821N	RESISTOR	820Ω,1/16W
R354	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R355	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R356	QRSA08J-681YN	RESISTOR	680Ω,1/10W
R357	QRSA08J-681YN	RESISTOR	680Ω,1/10W
R358	NRVA62D-102N	RESISTOR	1kΩ,1/16W
R359	NRVA62D-561N	RESISTOR	560Ω,1/16W
R360	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R361	QRV141F-2740AY	CMF RESISTOR	274Ω,1/4W
R362	QRV141F-8200AY	CMF RESISTOR	820Ω,1/4W
R363	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R364	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
R365	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R366	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R367	NRVA62D-102N	RESISTOR	1kΩ,1/16W
R368	NRVA62D-152N	RESISTOR	1.5kΩ,1/16W
R369	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R370	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R371	QRSA08J-821YN	RESISTOR	820Ω,1/10W
R372	QRSA08J-821YN	RESISTOR	820Ω,1/10W
R373	QRSA08J-821YN	RESISTOR	820Ω,1/10W
R374	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R375	QRD161J-750	RESISTOR	75Ω,1/6W
R376	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R377	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R378	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R379	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
R380	NRVA62D-821N	RESISTOR	820Ω,1/16W

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R381	NRVA62D-821N	RESISTOR	820Ω,1/16W
R382	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R383	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R384	QRSA08J-681YN	RESISTOR	680Ω,1/10W
R385	QRSA08J-681YN	RESISTOR	680Ω,1/10W
R386	NRVA62D-102N	RESISTOR	1kΩ,1/16W
R387	NRVA62D-561N	RESISTOR	560Ω,1/16W
R388	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R389	QRV141F-2740AY	CMF RESISTOR	274Ω,1/4W
R390	QRV141F-8200AY	CMF RESISTOR	820Ω,1/4W
R391	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R392	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
R393	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R394	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R395	NRVA62D-102N	RESISTOR	1kΩ,1/16W
R396	NRVA62D-152N	RESISTOR	1.5kΩ,1/16W
R397	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R398	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R399	QRSA08J-821YN	RESISTOR	820Ω,1/10W
R400	QRSA08J-821YN	RESISTOR	820Ω,1/10W
R401	QRSA08J-821YN	RESISTOR	820Ω,1/10W
R402	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R403	QRD161J-750	RESISTOR	75Ω,1/6W
R404	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R405	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
R408	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R409	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R410	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R411	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R412	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R413	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R414	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R415	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R416	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R417	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R418	QRSA08J-681YN	RESISTOR	680Ω,1/10W
R419	QRSA08J-681YN	RESISTOR	680Ω,1/10W
R420	QRSA08J-182YN	RESISTOR	1.8kΩ,1/10W
R421	QRSA08J-681YN	RESISTOR	680Ω,1/10W
R422	QRSA08J-681YN	RESISTOR	680Ω,1/10W
R423	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R424	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R425	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R426	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R427	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
R428	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R429	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R430	QRSA08J-152YN	RESISTOR	1.5kΩ,1/10W
R432	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R433	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R434	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R435	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
C101	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C103	QCSA1HJ-121	CAPACITOR	120pF,50V
C104	QCFA1EZ-104	CAPACITOR	0.1μF,25V

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
C105	QETC1AM-107	E CAPACITOR	100μF,10V
C106	QETC1AM-107	E CAPACITOR	100μF,10V
C107	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C108	QETC1AM-107	E CAPACITOR	100μF,10V
C109	QCSA1HJ-101	CAPACITOR	100pF,50V
C110	QETC1AM-107	E CAPACITOR	100μF,10V
C111	QCSA1HJ-470	CAPACITOR	47pF,50V
C112	QETC1AM-107	E CAPACITOR	100μF,10V
C113	QETC1AM-107	E CAPACITOR	100μF,10V
C114	QCSA1HJ-101	CAPACITOR	100pF,50V
C115	QCSA1HJ-470	CAPACITOR	47pF,50V
C116	QETC1AM-107	E CAPACITOR	100μF,10V
C117	QETC1AM-107	E CAPACITOR	100μF,10V
C118	QETC1CM-107	E CAPACITOR	100μF,16V
C119	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C120	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C121	QETC1HM-105	E CAPACITOR	1μF,50V
C122	QFV71HJ-474	TF CAPACITOR	0.47μF,50V
C123	QETC1AM-107	E CAPACITOR	100μF,10V
C124	QCFA1EZ-473	CAPACITOR	0.047μF,25V
C125	QCFA1EZ-473	CAPACITOR	0.047μF,25V
C126	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C127	QETC1HM-105	E CAPACITOR	1μF,50V
C128	QCFA1HZ-102	CAPACITOR	0.001μF,50V
C129	QCFA1HZ-102	CAPACITOR	0.001μF,50V
C130	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C131	QETC1AM-476	E CAPACITOR	47μF,10V
C132	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C133	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C134	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C135	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C136	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C137	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C138	QCSA1HJ-560	CAPACITOR	56pF,50V
C139	QCSA1HJ-121	CAPACITOR	120pF,50V
C140	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C141	NFV21CJ-102AY	TF CAPACITOR	0.001μF,16V
C142	NFV21CJ-102AY	TF CAPACITOR	0.001μF,16V
C143	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C144	QENC1HM-225	NP E CAPACITOR	2.2μF,50V
C145	QETC1AM-107	E CAPACITOR	100μF,10V
C146	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C147	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C148	QETC1AM-107	E CAPACITOR	100μF,10V
C149	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C150	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C151	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C152	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C153	QETC1AM-476	E CAPACITOR	47μF,10V
C154	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C155	QETC1AM-476	E CAPACITOR	47μF,10V
C156	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C157	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C158	QETC1AM-107	E CAPACITOR	100μF,10V
C159	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C160	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C161	QFN41HJ-102	M CAPACITOR	0.001μF,50V

⚠REF No.	PART No.	PART NAME, DESCRIPTION	
C162	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C163	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C164	QFN41HJ-102	M CAPACITOR	0.001μF,50V
C165	QFN41HJ-392	M CAPACITOR	0.0039μF,50V
C166	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C167	QCSA1HJ-101	CAPACITOR	100pF,50V
C168	QFN41HJ-122	M CAPACITOR	0.0012μF,50V
C169	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C170	QCSA1HJ-560	CAPACITOR	56pF,50V
C171	QCSA1HJ-331	CAPACITOR	330pF,50V
C172	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C173	QFN41HJ-102	M CAPACITOR	0.001μF,50V
C174	QETC1AM-107	E CAPACITOR	100μF,10V
C175	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C176	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C177	QCFA1CZ-334	CAPACITOR	0.33μF,16V
C178	QETC1CM-107	E CAPACITOR	100μF,16V
C179	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C180	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C181	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C182	QCFA1HZ-102	CAPACITOR	0.001μF,50V
C183	QETC1CM-107	E CAPACITOR	100μF,16V
C184	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C185	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C187	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C188	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C189	QCSA1HJ-821	CAPACITOR	820pF,50V
C190	QCSA1HJ-471	CAPACITOR	470pF,50V
C191	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C193	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C195	NFV21CJ-102AY	TF CAPACITOR	0.001μF,16V
C196	QCFA1HZ-102	CAPACITOR	0.001μF,50V
C197	NFV21CJ-682AY	TF CAPACITOR	0.0068μF,16V
C198	NFV21CJ-682AY	TF CAPACITOR	0.0068μF,16V
C199	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C200	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C201	QCFA1HZ-102	CAPACITOR	0.001μF,50V
C301	QETC1AM-107	E CAPACITOR	100μF,10V
C302	QETC1CM-476	E CAPACITOR	47μF,16V
C303	QETC1AM-107	E CAPACITOR	100μF,10V
C304	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C305	QETC1AM-107	E CAPACITOR	100μF,10V
C306	QCSA1HJ-3R0	CAPACITOR	3pF,50V
C307	QETC1AM-107	E CAPACITOR	100μF,10V
C308	QETC1AM-107	E CAPACITOR	100μF,10V
C309	QETC1AM-107	E CAPACITOR	100μF,10V
C310	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C311	QETC1AM-107	E CAPACITOR	100μF,10V
C312	QETC1AM-107	E CAPACITOR	100μF,10V
C313	QETC1AM-107	E CAPACITOR	100μF,10V
C314	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C315	QETC1AM-107	E CAPACITOR	100μF,10V
C316	QETC1AM-107	E CAPACITOR	100μF,10V
C317	QETC1AM-107	E CAPACITOR	100μF,10V
C318	QETC1CM-336	E CAPACITOR	33μF,16V
C319	QETC1CM-107	E CAPACITOR	100μF,16V
C320	QCFA1HZ-103	CAPACITOR	0.01μF,50V

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
C321	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C322	QETC1AM-107	E CAPACITOR	100μF,10V
C323	QETC1AM-107	E CAPACITOR	100μF,10V
C324	QCSA1HJ-101	CAPACITOR	100pF,50V
C325	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C326	QETC1AM-107	E CAPACITOR	100μF,10V
C327	QCSA1HJ-470	CAPACITOR	47pF,50V
C328	QETC1AM-107	E CAPACITOR	100μF,10V
C329	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C330	QETC1AM-107	E CAPACITOR	100μF,10V
C331	QETC1AM-107	E CAPACITOR	100μF,10V
C332	QETC1AM-107	E CAPACITOR	100μF,10V
C333	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C334	QETC1AM-107	E CAPACITOR	100μF,10V
C335	QETC1AM-107	E CAPACITOR	100μF,10V
C336	QCSA1HJ-470	CAPACITOR	47pF,50V
C337	QETC1AM-107	E CAPACITOR	100μF,10V
C338	QETC1AM-107	E CAPACITOR	100μF,10V
C339	QETC1CM-336	E CAPACITOR	33μF,16V
C340	QETC1CM-107	E CAPACITOR	100μF,16V
C341	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C342	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C343	QETC1AM-107	E CAPACITOR	100μF,10V
C344	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C345	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C346	QETC1AM-107	E CAPACITOR	100μF,10V
C347	QETC1AM-107	E CAPACITOR	100μF,10V
C348	QCSA1HJ-101	CAPACITOR	100pF,50V
C349	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C350	QETC1AM-107	E CAPACITOR	100μF,10V
C351	QCSA1HJ-470	CAPACITOR	47pF,50V
C352	QETC1AM-107	E CAPACITOR	100μF,10V
C353	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C354	QETC1AM-107	E CAPACITOR	100μF,10V
C355	QETC1AM-107	E CAPACITOR	100μF,10V
C356	QETC1AM-107	E CAPACITOR	100μF,10V
C357	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C358	QETC1AM-107	E CAPACITOR	100μF,10V
C359	QETC1AM-107	E CAPACITOR	100μF,10V
C360	QCSA1HJ-470	CAPACITOR	47pF,50V
C361	QETC1AM-107	E CAPACITOR	100μF,10V
C362	QETC1AM-107	E CAPACITOR	100μF,10V
C363	QETC1CM-336	E CAPACITOR	33μF,16V
C364	QETC1CM-107	E CAPACITOR	100μF,16V
C365	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C366	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C367	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C368	QCSA1HJ-560	CAPACITOR	56pF,50V
C369	QCSA1HJ-121	CAPACITOR	120pF,50V
C370	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C371	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C372	QCSA1HJ-470	CAPACITOR	47pF,50V
C373	QCSA1HJ-470	CAPACITOR	47pF,50V
C374	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C375	QETC1CM-476	E CAPACITOR	47μF,16V
C376	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C377	QCFA1HZ-103	CAPACITOR	0.01μF,50V

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
C378	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C379	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C380	QETC1CM-476	E CAPACITOR	47 μ F,16V
C381	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C382	QENC1AM-476	NP E CAPACITOR	47 μ F,10V
C383	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C384	QETC1CM-476	E CAPACITOR	47 μ F,16V
C385	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C386	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C387	QETC1CM-107	E CAPACITOR	100 μ F,16V
C388	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C389	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
L101	YU41134-121J	COIL	120 μ H
L102	YU41134-221JY	COIL	220 μ H
L301	YU41134-121J	COIL	120 μ H
L302	YU41134-4R7KY	COIL	4.7 μ H
L303	YU41134-4R7KY	COIL	4.7 μ H
LPF101	PGZ01526	LOW PASS FILTER	
LPF102	PGZ01526	LOW PASS FILTER	
LPF301	PGZ01431	LOW PASS FILTER	
LPF302	PGZ00131-002	DELAY LINE	
LPF303	PGZ00826-003	DELAY LINE	
LPF304	PGZ00826-003	DELAY LINE	
⚠ X101	PGZ01555	VCO	
EJ1	PGZ00582	EJECTOR, × 2	
RV1	PU53276	PLASTIC RIVET, × 4	
SLD1	PRD30781-02-03	SHIELD PLATE	
GND1	PGZ00587-00	TEST POINT, × 4	
TP1	PGZ01015	TEST PIN, × 12	
CN1	PGZ00421-64	MALE CONNECTOR	

TBC 3 BOARD ASSEMBLY, 525 <62>

PWBA	PRK10070B-04	TBC-3 BOARD ASSY	
STK1	PRD30072-35	STICKER	
IC1	UPC78L12T	I.C.(M)	

#⚠REF No.	PART No.	PART NAME, DESCRIPTION
IC2	UPC78L05T	I.C.(M)
IC3	UPC78L05T	I.C.(M)
IC4	UPC78L05T	I.C.(M)
IC5	UPC78L05T	I.C.(M)
IC6	UPC79N12H	I.C.(M)
IC8	UPC78L05T	I.C.(M)
IC10	UPC78L05T	I.C.(M)
IC11	UPC78L05T	I.C.(M)
IC13	UPC79N05H	I.C.(M)
IC14	UPC78L05T	I.C.(M)
IC15	UPC78L12T	I.C.(M)
IC16	UPC78L05T	I.C.(M)
IC19	UPC78L05T	I.C.(M)
IC20	UPC78L05T	I.C.(M)
IC41	UPC78L05T	I.C.(M)
IC101	TC74HC4538AF	I.C.(M)
IC102	TC74HC08AF	I.C.(M)
IC103	CXA1228S	I.C.(M)
IC104	UPC311G2	I.C.(M)
IC105	SN75158PS	I.C.(M)
IC106	TC7W04F	I.C.(M)
IC107	TC74HC74AF	I.C.(M)
IC108	LA7213	I.C.(M)
IC109	TC74HC74AF	I.C.(M)
IC301	UPC4082G2	I.C.(M)
IC302	TC4053BF	I.C.(M)
IC303	UPC4082G2	I.C.(M)
IC304	UPC319G2	I.C.(M)
IC305	TC74HC541AF	I.C.(M)
IC306	LA7213	I.C.(M)
IC307	TC74HC14AF	I.C.(M)
IC308	SN74LS221NS	I.C.(M)
IC309	SN74LS221NS	I.C.(M)
IC310	TC74HC4538AF	I.C.(M)
IC311	TC7S08F	I.C.(M)
IC313	TC74HC221AF	I.C.(M)
IC315	M51957BL	I.C.(M)
IC317	JCL0003	I.C.(M)
IC318	SN74LS221NS	I.C.(M)
IC319	TC74HC221AF	I.C.(M)
IC401	TC74HC00AF	I.C.(M)
IC402	SN74LS221NS	I.C.(M)
IC403	TC74HC4538AF	I.C.(M)
IC404	TC74HC74AF	I.C.(M)
IC405	TC74HC74AF	I.C.(M)
IC502	TC74HC221AF	I.C.(M)
IC503	TC4W53F	I.C.(M)
IC504	TC74HC221AF	I.C.(M)
IC505	SN7406NS	I.C.(M)
IC506	RC4560M	I.C.(M)
IC507	UPC319G2	I.C.(M)
IC508	TC7W04F	I.C.(M)
IC509	SN75158PS	I.C.(M)
IC510	TC7S32F	I.C.(M)
IC511	JCL0005	I.C.(M)

⚠REF No.	PART No.	PART NAME, DESCRIPTION
IC512	TC7S32F	I.C.(M)
IC522	TC4069UBF	I.C.(M)
IC523	TC4W66F	I.C.(M)
IC524	UPC4074G2	I.C.(M)
IC525	TC7W04F	I.C.(M)
Q101	2SA1037K(QR)	TRANSISTOR
Q102	2SA1037K(QR)	TRANSISTOR
Q103	2SC2412K(QR)	TRANSISTOR
Q105	2SC2412K(QR)	TRANSISTOR
Q113	2SC2412K(QR)	TRANSISTOR
Q114	2SC2412K(QR)	TRANSISTOR
Q115	2SK621	FE TRANSISTOR
Q116	2SK621	FE TRANSISTOR
Q117	2SK621	FE TRANSISTOR
Q118	2SA1036K(R)	TRANSISTOR
Q119	2SC2412K(QR)	TRANSISTOR
Q120	FMG2	TRANSISTOR
Q121	2SK621	FE TRANSISTOR
Q301	2SA1037K(QR)	TRANSISTOR
Q302	2SA1037K(QR)	TRANSISTOR
Q303	2SC2412K(QR)	TRANSISTOR
Q304	2SA1037K(QR)	TRANSISTOR
Q305	2SA1037K(QR)	TRANSISTOR
Q306	2SC2412K(QR)	TRANSISTOR
Q312	2SA1037K(QR)	TRANSISTOR
Q313	2SC2412K(QR)	TRANSISTOR
Q401	2SK621	FE TRANSISTOR
Q402	2SK621	FE TRANSISTOR
Q403	2SK621	FE TRANSISTOR
Q501	2SA1037K(QR)	TRANSISTOR
Q502	2SA1037K(QR)	TRANSISTOR
Q508	2SA1037K(QR)	TRANSISTOR
Q509	2SC2412K(QR)	TRANSISTOR
Q510	2SA1037K(QR)	TRANSISTOR
Q511	2SC2412K(QR)	TRANSISTOR
Q512	2SC2412K(QR)	TRANSISTOR
Q513	2SC2412K(QR)	TRANSISTOR
Q514	2SK621	FE TRANSISTOR
D101	DAN202K	DIODE
D102	DAP202K	DIODE
D103	DAN202K	DIODE
D301	DAP202K	DIODE
D302	DAN202K	DIODE
D401	DAN202K	DIODE
D502	DAP202K	DIODE
D503	1SV68-40	DIODE
D504	1SV68-40	DIODE
D505	1SV68-40	DIODE

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R1	NVP1415-501N	V RESISTOR	500Ω,1/4W
R2	NVP1415-103N	V RESISTOR	10kΩ,1/4W
R4	NVP1415-103N	V RESISTOR	10kΩ,1/4W
R5	NVP1415-102N	V RESISTOR	1kΩ,1/4W
R7	NVP1415-503N	V RESISTOR	50kΩ,1/4W
R8	NVP1415-103N	V RESISTOR	10kΩ,1/4W
R12	QVPB610-103	V RESISTOR	10kΩ
R101	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R102	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R103	QRSA08J-272YN	RESISTOR	2.7kΩ,1/10W
R104	QRSA08J-272YN	RESISTOR	2.7kΩ,1/10W
R105	QRSA08J-222YN	RESISTOR	2.2kΩ,1/10W
R106	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R107	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R108	QRSA08J-473YN	RESISTOR	47kΩ,1/10W
R109	QRSA08J-183YN	RESISTOR	18kΩ,1/10W
R110	QRSA08J-221YN	RESISTOR	220Ω,1/10W
R111	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
R112	QRSA08J-221YN	RESISTOR	220Ω,1/10W
R113	QRSA08J-221YN	RESISTOR	220Ω,1/10W
R114	QRSA08J-471YN	RESISTOR	470Ω,1/10W
R115	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R116	QRSA08J-821YN	RESISTOR	820Ω,1/10W
R117	QRSA08J-331YN	RESISTOR	330Ω,1/10W
R118	QRSA08J-224YN	RESISTOR	220kΩ,1/10W
R119	QRSA08J-821YN	RESISTOR	820Ω,1/10W
R120	QRSA08J-471YN	RESISTOR	470Ω,1/10W
R121	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R130	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R131	QRSA08J-394YN	RESISTOR	390kΩ,1/10W
R132	QRSA08J-182YN	RESISTOR	1.8kΩ,1/10W
R133	QRSA08J-392YN	RESISTOR	3.9kΩ,1/10W
R134	QRSA08J-184YN	RESISTOR	180kΩ,1/10W
R135	QRSA08J-153YN	RESISTOR	15kΩ,1/10W
R136	QRSA08J-153YN	RESISTOR	15kΩ,1/10W
R137	QRSA08J-272YN	RESISTOR	2.7kΩ,1/10W
R138	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
R139	QRSA08J-104YN	RESISTOR	100kΩ,1/10W
R140	QRSA08J-183YN	RESISTOR	18kΩ,1/10W
R141	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
R142	QRSA08J-153YN	RESISTOR	15kΩ,1/10W
R143	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R144	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R145	QRSA08J-105YN	RESISTOR	1MΩ,1/10W
R146	QRSA08J-223YN	RESISTOR	22kΩ,1/10W
R147	QRSA08J-333YN	RESISTOR	33kΩ,1/10W
R148	QRSA08J-181YN	RESISTOR	180Ω,1/10W
R149	QRSA08J-122YN	RESISTOR	1.2kΩ,1/10W
R150	QRSA08J-561YN	RESISTOR	560Ω,1/10W
R151	QRSA08J-561YN	RESISTOR	560Ω,1/10W
R152	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R153	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R154	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R155	QRSA08J-102YN	RESISTOR	1kΩ,1/10W

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#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R156	QRSA08J-102YN	RESISTOR	1kΩ,1／10W
R157	QRSA08J-681YN	RESISTOR	680Ω,1／10W
R158	QRSA08J-102YN	RESISTOR	1kΩ,1／10W
R159	QRSA08J-221YN	RESISTOR	220Ω,1／10W
R160	QRSA08J-221YN	RESISTOR	220Ω,1／10W
R161	QRSA08J-222YN	RESISTOR	2.2kΩ,1／10W
R162	QRSA08J-391YN	RESISTOR	390Ω,1／10W
R163	QRSA08J-222YN	RESISTOR	2.2kΩ,1／10W
R164	QRSA08J-103YN	RESISTOR	10kΩ,1／10W
R166	QRSA08J-472YN	RESISTOR	4.7kΩ,1／10W
R167	QRSA08J-223YN	RESISTOR	22kΩ,1／10W
R168	QRSA08J-221YN	RESISTOR	220Ω,1／10W
R169	QRSA08J-103YN	RESISTOR	10kΩ,1／10W
R170	QRSA08J-103YN	RESISTOR	10kΩ,1／10W
R301	QRSA08J-181YN	RESISTOR	180Ω,1／10W
R302	QRSA08J-103YN	RESISTOR	10kΩ,1／10W
R303	QRSA08J-392YN	RESISTOR	3.9kΩ,1／10W
R304	QRSA08J-272YN	RESISTOR	2.7kΩ,1／10W
R305	QRSA08J-222YN	RESISTOR	2.2kΩ,1／10W
R306	QRSA08J-181YN	RESISTOR	180Ω,1／10W
R307	QRSA08J-332YN	RESISTOR	3.3kΩ,1／10W
R308	QRSA08J-473YN	RESISTOR	47kΩ,1／10W
R309	QRSA08J-183YN	RESISTOR	18kΩ,1／10W
R310	QRSA08J-222YN	RESISTOR	2.2kΩ,1／10W
R311	QRSA08J-122YN	RESISTOR	1.2kΩ,1／10W
R312	QRSA08J-122YN	RESISTOR	1.2kΩ,1／10W
R313	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R314	QRSA08J-681YN	RESISTOR	680Ω,1／10W
R315	QRSA08J-221YN	RESISTOR	220Ω,1／10W
R316	QRSA08J-222YN	RESISTOR	2.2kΩ,1／10W
R317	QRSA08J-181YN	RESISTOR	180Ω,1／10W
R318	QRSA08J-222YN	RESISTOR	2.2kΩ,1／10W
R319	QRSA08J-471YN	RESISTOR	470Ω,1／10W
R320	QRSA08J-471YN	RESISTOR	470Ω,1／10W
R322	QRSA08J-331YN	RESISTOR	330Ω,1／10W
R323	QRSA08J-471YN	RESISTOR	470Ω,1／10W
R324	QRSA08J-681YN	RESISTOR	680Ω,1／10W
R325	QRSA08J-681YN	RESISTOR	680Ω,1／10W
R326	QRSA08J-222YN	RESISTOR	2.2kΩ,1／10W
R327	QRSA08J-222YN	RESISTOR	2.2kΩ,1／10W
R328	QRSA08J-822YN	RESISTOR	8.2kΩ,1／10W
R329	QRSA08J-123YN	RESISTOR	12kΩ,1／10W
R330	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R331	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R334	QRSA08J-333YN	RESISTOR	33kΩ,1／10W
R335	QRSA08J-473YN	RESISTOR	47kΩ,1／10W
R336	QRSA08J-102YN	RESISTOR	1kΩ,1／10W
R337	QRSA08J-181YN	RESISTOR	180Ω,1／10W
R338	QRSA08J-102YN	RESISTOR	1kΩ,1／10W
R339	QRSA08J-471YN	RESISTOR	470Ω,1／10W
R340	QRSA08J-102YN	RESISTOR	1kΩ,1／10W
R341	QRSA08J-333YN	RESISTOR	33kΩ,1／10W
R342	QRSA08J-561YN	RESISTOR	560Ω,1／10W
R343	QRSA08J-222YN	RESISTOR	2.2kΩ,1／10W
R344	NRVA62D-203N	CMF RESISTOR	20kΩ,1／16W
R345	QRSA08J-472YN	RESISTOR	4.7kΩ,1／10W
R346	QRSA08J-472YN	RESISTOR	4.7kΩ,1／10W

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R347	QRSA08J-103YN	RESISTOR	10kΩ,1／10W
R348	NRVA62D-473N	RESISTOR	47kΩ,1／16W
R349	NRVA62D-123N	RESISTOR	12kΩ,1／16W
R350	QRSA08J-474YN	RESISTOR	470kΩ,1／10W
R351	QRSA08J-472YN	RESISTOR	4.7kΩ,1／10W
R352	QRSA08J-223YN	RESISTOR	22kΩ,1／10W
R353	QRSA08J-103YN	RESISTOR	10kΩ,1／10W
R354	QRSA08J-562YN	RESISTOR	5.6kΩ,1／10W
R362	QRSA08J-473YN	RESISTOR	47kΩ,1／10W
R363	QRSA08J-562YN	RESISTOR	5.6kΩ,1／10W
R364	QRSA08J-272YN	RESISTOR	2.7kΩ,1／10W
R365	QRSA08J-103YN	RESISTOR	10kΩ,1／10W
R366	QRSA08J-0R0Y	RESISTOR	0Ω,1／10W
R367	QRSA08J-221YN	RESISTOR	220Ω,1／10W
R368	QRSA08J-103YN	RESISTOR	10kΩ,1／10W
R369	QRSA08J-221YN	RESISTOR	220Ω,1／10W
R370	QRSA08J-221YN	RESISTOR	220Ω,1／10W
R383	NRVA62D-223N	RESISTOR	22kΩ,1／16W
R384	NRVA62D-563N	RESISTOR	56kΩ,1／16W
R385	NRVA62D-273N	RESISTOR	27kΩ,1／16W
R392	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R393	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R394	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R395	QRSA08J-331YN	RESISTOR	330Ω,1／10W
R396	QRSA08J-224YN	RESISTOR	220kΩ,1／10W
R418	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R419	QRSA08J-561YN	RESISTOR	560Ω,1／10W
R451	NRVA62D-243N	RESISTOR	24kΩ,1／16W
R452	NRVA62D-683N	RESISTOR	68kΩ,1／16W
R453	NRVA62D-563N	RESISTOR	56kΩ,1／16W
R454	NRVA62D-273N	RESISTOR	27kΩ,1／16W
R455	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R456	QRSA08J-102YN	RESISTOR	1kΩ,1／10W
R457	QRSA08J-102YN	RESISTOR	1kΩ,1／10W
R458	QRSA08J-102YN	RESISTOR	1kΩ,1／10W
R459	QRSA08J-102YN	RESISTOR	1kΩ,1／10W
R460	QRSA08J-102YN	RESISTOR	1kΩ,1／10W
R461	QRSA08J-103YN	RESISTOR	10kΩ,1／10W
R501	QRSA08J-0R0Y	RESISTOR	0Ω,1／10W
R503	QRSA08J-563YN	RESISTOR	56kΩ,1／10W
R504	QRSA08J-273YN	RESISTOR	27kΩ,1／10W
R506	QRSA08J-332YN	RESISTOR	3.3kΩ,1／10W
R508	QRSA08J-563YN	RESISTOR	56kΩ,1／10W
R510	QRSA08J-473YN	RESISTOR	47kΩ,1／10W
R511	QRSA08J-473YN	RESISTOR	47kΩ,1／10W
R512	QRSA08J-473YN	RESISTOR	47kΩ,1／10W
R513	QRSA08J-473YN	RESISTOR	47kΩ,1／10W
R514	QRSA08J-103YN	RESISTOR	10kΩ,1／10W
R515	QRSA08J-680YN	RESISTOR	68Ω,1／10W
R516	QRSA08J-560YN	RESISTOR	56Ω,1／10W
R517	QRSA08J-333YN	RESISTOR	33kΩ,1／10W
R518	QRSA08J-102YN	RESISTOR	1kΩ,1／10W
R519	QRSA08J-182YN	RESISTOR	1.8kΩ,1／10W
R520	QRSA08J-182YN	RESISTOR	1.8kΩ,1／10W

⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R521	QRSA08J-473YN	RESISTOR	47kΩ,1／10W
R522	QRSA08J-222YN	RESISTOR	2.2kΩ,1／10W
R523	QRSA08J-333YN	RESISTOR	33kΩ,1／10W
R524	QRSA08J-103YN	RESISTOR	10kΩ,1／10W
R525	QRSA08J-680YN	RESISTOR	68Ω,1／10W
R526	QRSA08J-560YN	RESISTOR	56Ω,1／10W
R527	QRSA08J-221YN	RESISTOR	220Ω,1／10W
R528	QRSA08J-221YN	RESISTOR	220Ω,1／10W
R529	QRSA08J-221YN	RESISTOR	220Ω,1／10W
R530	QRSA08J-221YN	RESISTOR	220Ω,1／10W
R531	QRSA08J-221YN	RESISTOR	220Ω,1／10W
R532	QRSA08J-221YN	RESISTOR	220Ω,1／10W
R533	QRSA08J-221YN	RESISTOR	220Ω,1／10W
R534	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R539	QRSA08J-472YN	RESISTOR	4.7kΩ,1／10W
R540	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R541	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R571	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R573	QRSA08J-224YN	RESISTOR	220kΩ,1／10W
R574	QRSA08J-154YN	RESISTOR	150kΩ,1／10W
R576	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R577	QRSA08J-104YN	RESISTOR	100kΩ,1／10W
R578	QRSA08J-224YN	RESISTOR	220kΩ,1／10W
R579	QRSA08J-154YN	RESISTOR	150kΩ,1／10W
R580	QRSA08J-103YN	RESISTOR	10kΩ,1／10W
R581	QRSA08J-103YN	RESISTOR	10kΩ,1／10W
R582	QRSA08J-222YN	RESISTOR	2.2kΩ,1／10W
R583	QRSA08J-222YN	RESISTOR	2.2kΩ,1／10W
R584	QRSA08J-222YN	RESISTOR	2.2kΩ,1／10W
R585	QRSA08J-222YN	RESISTOR	2.2kΩ,1／10W
R586	QRSA08J-472YN	RESISTOR	4.7kΩ,1／10W
R587	QRSA08J-472YN	RESISTOR	4.7kΩ,1／10W
R588	QRSA08J-103YN	RESISTOR	10kΩ,1／10W
R590	QRSA08J-104YN	RESISTOR	100kΩ,1／10W
R591	QRSA08J-125YN	RESISTOR	1.2MΩ,1／10W
R592	QRSA08J-563YN	RESISTOR	56kΩ,1／10W
R593	QRSA08J-222YN	RESISTOR	2.2kΩ,1／10W
R595	QRSA08J-103YN	RESISTOR	10kΩ,1／10W
R596	QRSA08J-103YN	RESISTOR	10kΩ,1／10W
R597	QRSA08J-104YN	RESISTOR	100kΩ,1／10W
R598	QRSA08J-181YN	RESISTOR	180Ω,1／10W
R599	QRSA08J-152YN	RESISTOR	1.5kΩ,1／10W
R600	QRSA08J-181YN	RESISTOR	180Ω,1／10W
R601	QRSA08J-152YN	RESISTOR	1.5kΩ,1／10W
R602	QRSA08J-221YN	RESISTOR	220Ω,1／10W
R603	QRSA08J-105YN	RESISTOR	1MΩ,1／10W
R605	QRSA08J-473YN	RESISTOR	47kΩ,1／10W
R607	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R608	QRSA08J-101YN	RESISTOR	100Ω,1／10W
R609	QRSA08J-101YN	RESISTOR	100Ω,1／10W
C101	QEPC1CM-226	E CAPACITOR	22μF,16V
C102	QEK61AM-476	E CAPACITOR	47μF,10V
C103	QEK61AM-476	E CAPACITOR	47μF,10V
C105	QCSA1HJ-391	CAPACITOR	390pF,50V

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
C106	QEK61CM-107	E CAPACITOR	100μF,16V
C107	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C108	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C109	QENC1EM-335	NP E CAPACITOR	3.3μF,25V
C110	QEF81AM-106	TANTAL CAPACITOR	10μF,10V
C111	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C112	QCYA1HK-273	CAPACITOR	0.027μF,50V
C113	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C114	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C115	QEK61AM-107	E CAPACITOR	100μF,10V
C116	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C117	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C118	NFV31CJ-473AY	TF CAPACITOR	0.047μF,16V
C119	QEPC0JM-476	NP E CAPACITOR	47μF,6.3V
C120	QCF81CZ-474	CAPACITOR	0.47μF,16V
C121	NFV31CJ-473AY	TF CAPACITOR	0.047μF,16V
C122	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C123	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C124	QEPC1HM-105	NP E CAPACITOR	1μF,50V
C125	QEF81AM-475	TANTAL CAPACITOR	4.7μF,10V
C126	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C127	QCSA1HJ-220	CAPACITOR	22pF,50V
C128	QCSA1HJ-220	CAPACITOR	22pF,50V
C129	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C130	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C131	QCSA1HJ-151	CAPACITOR	150pF,50V
C132	QCSA1HJ-150	CAPACITOR	15pF,50V
C133	QCSA1HJ-151	CAPACITOR	150pF,50V
C134	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C135	QEK61AM-107	E CAPACITOR	100μF,10V
C136	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C137	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C138	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C139	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C140	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C141	QEK61AM-107	E CAPACITOR	100μF,10V
C142	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C143	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C144	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C145	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C146	QEK61AM-107	E CAPACITOR	100μF,10V
C147	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C148	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C149	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C150	QETC1EM-107	E CAPACITOR	100μF,25V
C151	QETC1AM-107	E CAPACITOR	100μF,10V
C152	QETC1EM-107	E CAPACITOR	100μF,25V
C153	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C301	QETC1CM-226	E CAPACITOR	22μF,16V
C302	QETC1AM-226	E CAPACITOR	22μF,10V
C303	QETC1AM-476	E CAPACITOR	47μF,10V
C304	QCSA1HJ-121	CAPACITOR	120pF,50V
C305	QCSA1HJ-271	CAPACITOR	270pF,50V
C307	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C308	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C309	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C310	QEF81CM-105	TANTAL CAPACITOR	1μF,16V

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
C311	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C312	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C313	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C314	QCYA1HK-152	CAPACITOR	0.0015μF,50V
C315	QCYA1HK-122	CAPACITOR	0.0012μF,50V
C316	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C317	QEK61AM-107	E CAPACITOR	100μF,10V
C318	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C319	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C320	QETC1CM-107	E CAPACITOR	100μF,16V
C321	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C322	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C323	QEK61AM-107	E CAPACITOR	100μF,10V
C324	QCSA1HJ-391	CAPACITOR	390pF,50V
C325	QENC1EM-335	NP E CAPACITOR	3.3μF,25V
C326	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C331	QEF81AM-106	TANTAL CAPACITOR	10μF,10V
C334	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C335	QCSA1HJ-221	CAPACITOR	220pF,50V
C336	NFV31CJ-122AY	TF CAPACITOR	0.0012μF,16V
- C337	QCTA1CH-121	CAPACITOR	120pF,16V
C338	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C339	QCSA1HJ-221	CAPACITOR	220pF,50V
C340	QCTA1CH-221	CAPACITOR	220pF,16V
C341	QCTA1CH-221	CAPACITOR	220pF,16V
C342	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C343	QCTA1CH-121	CAPACITOR	120pF,16V
C344	QCYA1HJ-103	CAPACITOR	0.01μF,50V
C345	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C346	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C348	QCSA1HJ-221	CAPACITOR	220pF,50V
C349	QCTA1CH-820	CAPACITOR	82pF,16V
C350	QCTA1CH-820	CAPACITOR	82pF,16V
C351	QEK61AM-107	E CAPACITOR	100μF,10V
C352	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C353	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C363	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C364	QCSA1HJ-100	CAPACITOR	10pF,50V
C370	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C374	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C375	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C376	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C377	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C378	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C379	QEK61AM-107	E CAPACITOR	100μF,10V
C380	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C381	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C390	QCTA1CH-121	CAPACITOR	120pF,16V
C391	NFV31CJ-122AY	TF CAPACITOR	0.0012μF,16V
C392	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C393	QCTA1CH-221	CAPACITOR	220pF,16V
C394	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C395	QEK61AM-107	E CAPACITOR	100μF,10V
C396	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C397	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C411	QEK61AM-107	E CAPACITOR	100μF,10V
C412	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C413	QCFA1HZ-104	CAPACITOR	0.1μF,50V
C414	NFV31CJ-103AY	TF CAPACITOR	0.01μF,16V
C415	NFV31CJ-223AY	TF CAPACITOR	0.022μF,16V
⚠ C416	QCSA1HJ-101	CAPACITOR	100pF,50V
⚠ C417	QCSA1HJ-101	CAPACITOR	100pF,50V
C451	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C452	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C453	QER61AM-476	E CAPACITOR	47μF,10V
C454	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C455	NFV31CJ-102AY	TF CAPACITOR	0.001μF,16V
C456	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C457	NFV31CJ-102AY	TF CAPACITOR	0.001μF,16V
C458	NFV31CJ-122AY	TF CAPACITOR	0.0012μF,16V
C459	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C460	NFV31CJ-152AY	TF CAPACITOR	0.0015μF,16V
C461	QCSA1HJ-101	CAPACITOR	100pF,50V
C462	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C463	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C464	QCSA1HJ-101	CAPACITOR	100pF,50V
C502	QCTA1CH-121	CAPACITOR	120pF,16V
C503	QCTA1CH-820	CAPACITOR	82pF,16V
C504	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C505	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C506	QCTA1CH-121	CAPACITOR	120pF,16V
C507	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C508	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C509	QETC1AM-107	E CAPACITOR	100μF,10V
C510	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C511	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C512	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C513	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C514	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C515	QCSA1HJ-3R0	CAPACITOR	3pF,50V
C516	QCTA1CH-101	CAPACITOR	100pF,16V
C517	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C518	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C519	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C520	QCTA1CH-101	CAPACITOR	100pF,16V
C521	QCSA1HJ-3R0	CAPACITOR	3pF,50V
C522	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C523	QETC1CM-107	E CAPACITOR	100μF,16V
C524	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C525	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C526	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C527	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C528	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C529	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C530	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C531	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C532	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C533	QCFA1HZ-103	CAPACITOR	0.01μF,50V
C534	QEK61AM-107	E CAPACITOR	100μF,10V
C535	QCFA1HZ-103	CAPACITOR	0.01μF,50V

⚠REF No.	PART No.	PART NAME, DESCRIPTION	
C536	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C571	QEPC1CM-106	NP E CAPACITOR	10 μ F,16V
C573	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C574	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C575	QCSA1HJ-470	CAPACITOR	47pF,50V
C576	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C577	NFV21CJ-102AY	TF CAPACITOR	0.001 μ F,16V
C578	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C579	NFV21CJ-103AY	TF CAPACITOR	0.01 μ F,16V
C580	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C581	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C582	QCTA1CH-150	CAPACITOR	15pF,16V
C583	NFV31CJ-123AY	TF CAPACITOR	0.012 μ F,16V
C584	QEK61AM-107	E CAPACITOR	100 μ F,10V
C585	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C586	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C588	QCYA1HK-472	CAPACITOR	0.0047 μ F,50V
C589	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C590	QCTA1CH-470	CAPACITOR	47pF,16V
C591	QCTA1CH-820	CAPACITOR	82pF,16V
C592	QCTA1CH-820	CAPACITOR	82pF,16V
C593	QCSA1HJ-470	CAPACITOR	47pF,50V
C594	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C597	QEK61AM-107	E CAPACITOR	100 μ F,10V
C598	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C599	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C600	QEK61AM-107	E CAPACITOR	100 μ F,10V
C601	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
C602	QCFA1EZ-104	CAPACITOR	0.1 μ F,25V
C603	QCFA1HZ-103	CAPACITOR	0.01 μ F,50V
⚠ C604	QCSA1HJ-101	CAPACITOR	100pF,50V
⚠ C605	QCSA1HJ-101	CAPACITOR	100pF,50V
⚠ C606	QCSA1HJ-101	CAPACITOR	100pF,50V
⚠ C607	QCSA1HJ-101	CAPACITOR	100pF,50V
C608	QCSA1HJ-101	CAPACITOR	100pF,50V
C609	QCSA1HJ-101	CAPACITOR	100pF,50V
C610	QCSA1HJ-101	CAPACITOR	100pF,50V
L1	PGZ01563-3R3	COIL	
L101	YU41134-470JY	COIL	47 μ H
L102	YU41134-8R2KY	COIL	8.2 μ H
L103	YU41134-820J	COIL	82 μ H
L104	YU41134-8R2KY	COIL	8.2 μ H
L301	YU41134-151JY	COIL	150 μ H
L302	YU41134-470JY	COIL	47 μ H
⚠ X1	PGZ01577	CRYSTAL RESONATOR	
⚠ X2	PGZ01691	CXO	
SW1	QSS1K41-L01	DIP SWITCH	
⚠ K101	PGZ01693-009Z	FERRITE BEADS	
⚠ K105	PGZ01693-009Z	FERRITE BEADS	

#⚠REF No.	PART No.	PART NAME, DESCRIPTION
⚠ K106	PGZ01693-005Z	FERRITE BEADS
⚠ K109	PGZ01693-009Z	FERRITE BEADS
⚠ K303	PGZ01693-009Z	FERRITE BEADS
⚠ K304	PGZ01693-009Z	FERRITE BEADS
⚠ K502	PGZ01693-009Z	FERRITE BEADS
⚠ K511	PGZ01693-009Z	FERRITE BEADS
⚠ K512	PGZ01693-009Z	FERRITE BEADS
⚠ K513	PGZ01693-009Z	FERRITE BEADS
EJ1	PGZ00582	EJECTOR, ×2
RV1	PU53276	PLASTIC RIVET, ×4
SLD1	PRD30254	SHIELD CASE, ×3
SLD2	PRD30255	SHIELD CAP, ×3
SLD7	PRD30781-02-03	SHIELD PLATE
GND1	PGZ00587-00	TEST POINT, ×8
TP1	PGZ01015	TEST PIN, ×22
CN1	PGZ00421-64	MALE CONNECTOR
⚠ CP1	ICP-F10	CIRCUIT PROTECTOR
⚠ CP2	ICP-F10	CIRCUIT PROTECTOR

DNR BOARD ASSEMBLY, 525 <63>

PWBA	PRK20086A-02	DNR BOARD ASSY
IC1	JCL0010	I.C.(M)
IC2	TC74VHC04FS	I.C.(M)
IC3	TC74VHC04FS	I.C.(M)
IC4	UPC78L05T	I.C.(M)
IC5	UPC78L05T	I.C.(M)
IC6	PGD30642-01-01	I.C.(M)
IC8	UPC78L05T	I.C.(M)
IC9	UPC78L05T	I.C.(M)
IC10	UPC78L05T	I.C.(M)
IC101	JCP0014	I.C.(M)
IC102	JCP0014	I.C.(M)
IC103	JCP0015	I.C.(M)
IC104	CXK1202Q	I.C.(M)
IC105	CXK1202Q	I.C.(M)
IC106	CXK1202Q	I.C.(M)
IC107	PGD30641-01-01	I.C.(M)
IC108	UPC78L05T	I.C.(M)
IC109	UPC78L05T	I.C.(M)

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#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
IC110	UPC78L05T	I.C.(M)	
IC111	UPC78L05T	I.C.(M)	
IC112	UPC78L05T	I.C.(M)	
IC113	M5278D05	I.C.(M)	
IC501	TC74VHC157FS	I.C.(M)	
IC502	TC74VHC157FS	I.C.(M)	
IC503	TC74VHC157FS	I.C.(M)	
IC504	TC74VHC157FS	I.C.(M)	
IC505	TC74VHC157FS	I.C.(M)	
IC506	TC74VHC157FS	I.C.(M)	
IC507	TC74VHC157FS	I.C.(M)	
IC508	TC74VHC157FS	I.C.(M)	
Q6	DTC114EU	TRANSISTOR	
D1	DA112	DIODE ARRAY	
D2	DA112	DIODE ARRAY	
D3	DA112	DIODE ARRAY	
D4	DA112	DIODE ARRAY	
R40	NRSA63J-101N	RESISTOR	100Ω,1/16W
R101	NRSA63J-101N	RESISTOR	100Ω,1/16W
R102	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R103	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R104	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R105	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R106	NRSA63J-472N	RESISTOR	4.7kΩ,1/16W
R107	NRSA63J-473N	RESISTOR	47kΩ,1/16W
R108	NRSA63J-473N	RESISTOR	47kΩ,1/16W
R109	NRSA63J-473N	RESISTOR	47kΩ,1/16W
R110	NRSA63J-473N	RESISTOR	47kΩ,1/16W
R200	NRSA63J-472N	RESISTOR	4.7kΩ,1/16W
C01	NEE21AM-336RU	TANTAL CAPACITOR	33μF,10V
C02	NEE21AM-336RU	TANTAL CAPACITOR	33μF,10V
C03	NEE21AM-336RU	TANTAL CAPACITOR	33μF,10V
C04	NEE21AM-336RU	TANTAL CAPACITOR	33μF,10V
C05	QCBB1HJ-271	CAPACITOR	470pF,50V
C06	QCBB1HJ-471	CAPACITOR	470pF,50V
C21	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C31	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C42	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C43	NEE21AM-475RY	TANTAL CAPACITOR	4.7μF,10V
C52	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C53	NEE21AM-475RY	TANTAL CAPACITOR	4.7μF,10V
C61	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C82	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C83	NEE21AM-475RY	TANTAL CAPACITOR	4.7μF,10V
C92	NCF31CZ-104A	CAPACITOR	0.1μF,16V

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
C93	NEE21AM-475RY	TANTAL CAPACITOR	4.7μF,10V
C102	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C103	NEE21AM-475RY	TANTAL CAPACITOR	4.7μF,10V
C105	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C107	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C108	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C109	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C501	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C502	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C503	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C504	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C505	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C506	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C507	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C508	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C1011	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C1021	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C1031	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C1041	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C1051	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C1061	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C1071	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C1081	NEE21AM-475RY	TANTAL CAPACITOR	4.7μF,10V
C1092	NEE21AM-475RY	TANTAL CAPACITOR	4.7μF,10V
C1103	NEE21AM-475RY	TANTAL CAPACITOR	4.7μF,10V
C1112	NEE21AM-475RY	TANTAL CAPACITOR	4.7μF,10V
C1122	NEE21AM-475RY	TANTAL CAPACITOR	4.7μF,10V
C1133	NEE21AM-475RY	TANTAL CAPACITOR	4.7μF,10V
SW1	NSRA001-L04	CODE SW	
⚠ K1	PGZ01823-102BZ	FERRITE BEADS	
⚠ K2	PGZ01823-102BZ	FERRITE BEADS	
⚠ K3	PGZ01823-102BZ	FERRITE BEADS	
⚠ K4	PGZ01823-102BZ	FERRITE BEADS	
⚠ K5	PGZ01823-102BZ	FERRITE BEADS	
⚠ K6	PGZ01823-102BZ	FERRITE BEADS	
⚠ K7	PGZ01823-102BZ	FERRITE BEADS	
⚠ K8	PGZ01823-102BZ	FERRITE BEADS	
⚠ K9	PGZ01823-102BZ	FERRITE BEADS	
⚠ K10	PGZ01823-102BZ	FERRITE BEADS	
⚠ K11	PGZ01823-102BZ	FERRITE BEADS	
⚠ K12	PGZ01823-102BZ	FERRITE BEADS	
⚠ K13	PGZ01823-102BZ	FERRITE BEADS	
⚠ K14	PGZ01823-102BZ	FERRITE BEADS	
⚠ K15	PGZ01823-102BZ	FERRITE BEADS	

⚠REF No.	PART No.	PART NAME, DESCRIPTION
K16	PGZ01823-102BZ	FERRITE BEADS
K17	PGZ01823-102BZ	FERRITE BEADS
K18	PGZ01823-102BZ	FERRITE BEADS
K19	PGZ01823-102BZ	FERRITE BEADS
K20	PGZ01823-102BZ	FERRITE BEADS
K21	PGZ01823-102BZ	FERRITE BEADS
K22	PGZ01823-102BZ	FERRITE BEADS
K23	PGZ01823-102BZ	FERRITE BEADS
K24	PGZ01823-102BZ	FERRITE BEADS
K25	PGZ01823-102BZ	FERRITE BEADS
K26	PGZ01823-102BZ	FERRITE BEADS
K27	PGZ01823-102BZ	FERRITE BEADS
K28	PGZ01823-102BZ	FERRITE BEADS
K29	PGZ01823-102BZ	FERRITE BEADS
K30	PGZ01823-102BZ	FERRITE BEADS
K31	PGZ01823-102BZ	FERRITE BEADS
K32	PGZ01823-102BZ	FERRITE BEADS
K33	PGZ01823-102BZ	FERRITE BEADS
K34	PGZ01823-181AZ	FERRITE BEADS
K35	PGZ01823-102BZ	FERRITE BEADS
K36	PGZ01823-102BZ	FERRITE BEADS
K37	PGZ01823-102BZ	FERRITE BEADS
K38	PGZ01823-102BZ	FERRITE BEADS
K39	PGZ01823-102BZ	FERRITE BEADS
K40	PGZ01823-102BZ	FERRITE BEADS
K1040	PGZ01823-102BZ	FERRITE BEADS
K1041	PGZ01823-102BZ	FERRITE BEADS
K1042	PGZ01823-102BZ	FERRITE BEADS
K1043	PGZ01823-102BZ	FERRITE BEADS
K1044	PGZ01823-102BZ	FERRITE BEADS
K1045	PGZ01823-102BZ	FERRITE BEADS
K1046	PGZ01823-102BZ	FERRITE BEADS
K1047	PGZ01823-102BZ	FERRITE BEADS
K1050	PGZ01823-102BZ	FERRITE BEADS
K1051	PGZ01823-102BZ	FERRITE BEADS
K1052	PGZ01823-102BZ	FERRITE BEADS
K1053	PGZ01823-102BZ	FERRITE BEADS
K1054	PGZ01823-102BZ	FERRITE BEADS
K1055	PGZ01823-102BZ	FERRITE BEADS
K1056	PGZ01823-102BZ	FERRITE BEADS
K1057	PGZ01823-102BZ	FERRITE BEADS
K1060	PGZ01823-102BZ	FERRITE BEADS
K1061	PGZ01823-102BZ	FERRITE BEADS
K1062	PGZ01823-102BZ	FERRITE BEADS
K1063	PGZ01823-102BZ	FERRITE BEADS
K1064	PGZ01823-102BZ	FERRITE BEADS
K1065	PGZ01823-102BZ	FERRITE BEADS
K1066	PGZ01823-102BZ	FERRITE BEADS
K1067	PGZ01823-102BZ	FERRITE BEADS
CN1	PGZ01517-100	MALE CONNECTOR

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
REAR 1 BOARD ASSEMBLY <71>			
PWBA	PRK10096E1	REAR 1 BOARD ASSY	
D3	RD10ES-T1B1	ZENER DIODE	
D4	RD10ES-T1B1	ZENER DIODE	
D5	RD10ES-T1B1	ZENER DIODE	
D6	RD10ES-T1B1	ZENER DIODE	
D7	RD10ES-T1B1	ZENER DIODE	
D8	RD10ES-T1B1	ZENER DIODE	
D9	RD10ES-T1B1	ZENER DIODE	
D10	RD10ES-T1B1	ZENER DIODE	
D11	RD10ES-T1B1	ZENER DIODE	
D12	RD10ES-T1B1	ZENER DIODE	
D17	RD10ES-T1B1	ZENER DIODE	
D18	RD10ES-T1B1	ZENER DIODE	
D19	RD10ES-T1B1	ZENER DIODE	
D20	RD10ES-T1B1	ZENER DIODE	
D21	RD10ES-T1B1	ZENER DIODE	
D22	RD10ES-T1B1	ZENER DIODE	
D23	RD10ES-T1B1	ZENER DIODE	
D24	RD10ES-T1B1	ZENER DIODE	
D25	RD10ES-T1B1	ZENER DIODE	
D26	RD10ES-T1B1	ZENER DIODE	
D27	RD10ES-T1B1	ZENER DIODE	
D28	RD10ES-T1B1	ZENER DIODE	
D29	RD10ES-T1B1	ZENER DIODE	
D30	RD10ES-T1B1	ZENER DIODE	
D32	RD9.1EW	ZENER DIODE	
D33	RD9.1EW	ZENER DIODE	
D34	RD9.1EW	ZENER DIODE	
D35	RD9.1EW	ZENER DIODE	
R2	QRD161J-750	RESISTOR	75Ω,1/6W
R5	QRD161J-750	RESISTOR	75Ω,1/6W
R6	QRD161J-750	RESISTOR	75Ω,1/6W
R7	QRD161J-750	RESISTOR	75Ω,1/6W
R8	QRD161J-750	RESISTOR	75Ω,1/6W
R11	QRD161J-750	RESISTOR	75Ω,1/6W
R13	QRD167J-0R0	RESISTOR	0Ω,1/6W
R16	QRD167J-0R0	RESISTOR	0Ω,1/6W
R17	QRD167J-0R0	RESISTOR	0Ω,1/6W
SW2	QSS1F12-L01	SLIDE SWITCH	
⚠ K3	PGZ00354	FERRITE BEADS	
⚠ K4	PGZ00354	FERRITE BEADS	
⚠ K5	PGZ00354	FERRITE BEADS	
⚠ K999	PGZ01225-005	FERRITE CORE	
SPC1	PRD30083-03	SPACER, × 2	

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	CN2	PU58844-110	CONNECTOR
	CN3	PU58844-103	CONNECTOR
	CN4	PU58844-105	CONNECTOR
	CN5	PU58844-102	CONNECTOR

REAR 2 BOARD ASSEMBLY <72>

	PWBA	PRK10096C2	REAR 2 BOARD ASSY
	D1	RD10ES-T1B1	ZENER DIODE
	D2	RD10ES-T1B1	ZENER DIODE
	SW1	PGZ01210	SLIDE SWITCH
⚠	K1	PGZ00354	FERRITE BEADS
	VA1	PU49624-2	VARISTOR
	VA2	PU49624-2	VARISTOR
	VA3	PU49624-2	VARISTOR
	VA4	PU49624-2	VARISTOR
	VA5	PU49624-2	VARISTOR
	VA6	PU49624-2	VARISTOR
	VA7	PU49624-2	VARISTOR
	CN1	PU58844-107	CONNECTOR
	CN2	PU58844-104	CONNECTOR

REAR 3 BOARD ASSEMBLY <73>

	PWBA	PRK10096D3	REAR 3 BOARD ASSY
	VA5	PU49624-2	VARISTOR
	VA6	PU49624-2	VARISTOR
	VA7	PU49624-2	VARISTOR
	VA8	PU49624-2	VARISTOR
	VA13	PU49624-2	VARISTOR
	VA14	PU49624-2	VARISTOR
	VA15	PU49624-2	VARISTOR
	VA16	PU49624-2	VARISTOR
	CN5	PU58844-103	CONNECTOR
	CN6	PU58844-103R	CONNECTOR
	CN7	PU58844-103Y	CONNECTOR
	CN8	PU58844-103	CONNECTOR

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION

REAR 4 BOARD ASSEMBLY, 525 <74>

	PWBA	PRK20135B	REAR 4 BOARD ASSY, 525
	IC1	BA10324	I.C.(M)
		or BA10324A	I.C.(M)
	IC2	BU4551BF	I.C.(M)
	IC3	UPD4066BG	I.C.(M)
	Q1	DTC144EK	TRANSISTOR
	Q2	DTC144EK	TRANSISTOR
	Q3	FMG2	TRANSISTOR
	Q4	DTC144EK	TRANSISTOR
	D1	RD16ES-T1B2	ZENER DIODE
	D2	RD16ES-T1B2	ZENER DIODE
	D3	RD16ES-T1B2	ZENER DIODE
	D4	RD16ES-T1B2	ZENER DIODE
	D5	RD16ES-T1B2	ZENER DIODE
	D6	RD9.1EW	ZENER DIODE
	D7	RD9.1EW	ZENER DIODE
	D8	RD9.1EW	ZENER DIODE
	D9	RD9.1EW	ZENER DIODE
	D10	DAP202K	DIODE
	D11	DAN202K	DIODE
	D12	DAN202K	DIODE
	R1	QRSA08J-102YN	RESISTOR 1kΩ,1/10W
	R2	QRSA08J-472YN	RESISTOR 4.7kΩ,1/10W
	R3	QRSA08J-102YN	RESISTOR 1kΩ,1/10W
	R4	QRSA08J-472YN	RESISTOR 4.7kΩ,1/10W
	R5	QRSA08J-102YN	RESISTOR 1kΩ,1/10W
	R6	QRSA08J-472YN	RESISTOR 4.7kΩ,1/10W
	R7	QRSA08J-272YN	RESISTOR 2.7kΩ,1/10W
	R8	QRSA08J-102YN	RESISTOR 1kΩ,1/10W
	R9	QRSA08J-222YN	RESISTOR 2.2kΩ,1/10W
	R10	QRSA08J-472YN	RESISTOR 4.7kΩ,1/10W
	R11	QRSA08J-223YN	RESISTOR 22kΩ,1/10W
	R12	QRSA08J-223YN	RESISTOR 22kΩ,1/10W
	R14	QRSA08J-153YN	RESISTOR 15kΩ,1/10W
	R15	QRSA08J-103YN	RESISTOR 10kΩ,1/10W
	R16	QRSA08J-223YN	RESISTOR 22kΩ,1/10W
	R17	QRSA08J-153YN	RESISTOR 15kΩ,1/10W
	R18	QRSA08J-103YN	RESISTOR 10kΩ,1/10W
	R19	QRSA08J-223YN	RESISTOR 22kΩ,1/10W
	R20	QRSA08J-223YN	RESISTOR 22kΩ,1/10W
	C1	QER41HM-105	E CAPACITOR 1μF,50V
	C2	QCFA1EZ-104	CAPACITOR 0.1μF,25V
	C3	QER41HM-105	E CAPACITOR 1μF,50V
	C4	QCFA1EZ-104	CAPACITOR 0.1μF,25V
	C5	QER41HM-105	E CAPACITOR 1μF,50V

⚠REF No.	PART No.	PART NAME, DESCRIPTION	
C6	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C7	QER41HM-105	E CAPACITOR	1μF,50V
C8	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C9	QCFA1EZ-104	CAPACITOR	0.1μF,25V
C10	QER41CM-476	E CAPACITOR	47μF,16V
C12	QCF11HP-472	CAPACITOR	0.0047μF,50V
K1	PGZ00354	FERRITE BEADS	
CN1	PU58844-110	CONNECTOR	
CN2	PU58844-102	CONNECTOR	
CN3	PU58844-106	CONNECTOR	
CN4	PU58844-108	CONNECTOR	
CN5	PU58844-104	CONNECTOR	

METER BOARD ASSEMBLY <80>

PWBA	PRK20093A1	METER BOARD ASSY	
MET1	PGZ01336-02	METER	
MET2	PGZ01337-02	METER	
D1	SLV-56YC3F	LE DIODE	
D2	SLV-56YC3F	LE DIODE	
D3	SLV-56YC3F	LE DIODE	
D4	SLV-56YC3F	LE DIODE	
D5	SLV-56YC3F	LE DIODE	
D6	SLV-56YC3F	LE DIODE	
D7	SLV-56YC3F	LE DIODE	
D8	SLV-56YC3F	LE DIODE	
D9	SLV-56YC3F	LE DIODE	
D10	SLV-56YC3F	LE DIODE	
R1	QRD167J-561	RESISTOR	560Ω,1/6W
R2	QRD167J-681	RESISTOR	680Ω,1/6W
R3	QRD167J-561	RESISTOR	560Ω,1/6W
R4	QRD167J-681	RESISTOR	680Ω,1/6W
HD1	PRD30597	SHADE, ×2	
CN1	PU59513-2R	CONNECTOR	
CN2	PU59513-4	CONNECTOR	

METER SW BOARD ASSEMBLY <81>

PWBA	PRK20093A2	METER SWITCH BOARD ASSY	

#⚠REF No.	PART No.	PART NAME, DESCRIPTION	
R1	QRD167J-101	RESISTOR	100Ω,1/6W
SW1	PGZ00469-02	SLIDE SWITCH	
SW2	PU57551	TACT SWITCH	
CN1	PU59513-3	CONNECTOR	
CN2	PU59513-2Y	CONNECTOR	
CN3	PU59513-2	CONNECTOR	

TRACKING VR BOARD ASSEMBLY <82>

PWBA	PRK20093A3	TRACKING VR BOARD ASSY	
R1	PGZ01582	V RESISTOR	
SPC1	WNB2600N	WASHER, NOT INCLUDED	
CN1	PU58844-3R	CONNECTOR	

SUB PANEL BOARD ASSEMBLY <83>

PWBA	PRK10097B1	SUB PANEL BOARD ASSY	
R1	QRD161J-272	RESISTOR	2.7kΩ,1/6W
R2	PGZ01580	V RESISTOR	
R3	QRD161J-272	RESISTOR	2.7kΩ,1/6W
R4	QRD161J-272	RESISTOR	2.7kΩ,1/6W
R5	PGZ01580	V RESISTOR	
R6	QRD161J-272	RESISTOR	2.7kΩ,1/6W
R7	QRD161J-272	RESISTOR	2.7kΩ,1/6W
R8	PGZ01580	V RESISTOR	
R9	QRD161J-272	RESISTOR	2.7kΩ,1/6W
R10	QRD161J-272	RESISTOR	2.7kΩ,1/6W
R11	PGZ01580	V RESISTOR	
R12	QRD161J-272	RESISTOR	2.7kΩ,1/6W
R13	QRD161J-682	RESISTOR	6.8kΩ,1/6W
R14	QVPB701-103	V RESISTOR	10kΩ
R15	QRD161J-473	RESISTOR	47kΩ,1/6W
R16	QVPB701-103	V RESISTOR	10kΩ
R17	QRD161J-222	RESISTOR	2.2kΩ,1/6W
R18	QVPB701-103	V RESISTOR	10kΩ
R19	QRD161J-153	RESISTOR	15kΩ,1/6W
C1	QCF31HP-103	CAPACITOR	0.01μF,50V

#⚠REF No.	PART No.	PART NAME, DESCRIPTION
SW1	PU58486-1-1	SLIDE SWITCH
SW2	PU58486-1-1	SLIDE SWITCH
SW3	PU58486-1-1	SLIDE SWITCH
SW4	PU58486-1-1	SLIDE SWITCH
SW5	PU58486-1-1	SLIDE SWITCH
SW6	PU58486-1-1	SLIDE SWITCH
SW7	PU58488-1-1	SLIDE SWITCH
SW10	PU58486-1-1	SLIDE SWITCH
SW12	QSR0095-L04	SLIDE SWITCH
SW13	QSR0095-L04	SLIDE SWITCH
CN1	PU58844-10	CONNECTOR
CN2	PU58844-2	CONNECTOR
CN3	PU58844-8	CONNECTOR
CN4	PU58844-2	CONNECTOR
CN5	PU58844-5	CONNECTOR
CN6	PU58844-3	CONNECTOR
CN7	PU58844-2	CONNECTOR

TP TERMINAL BOARD ASSEMBLY <84>

PWBA	PRK10097A2	TP TERMINAL BOARD ASSY
D1	RD10ES-T1B1	ZENER DIODE
D2	RD10ES-T1B1	ZENER DIODE
D3	RD10ES-T1B1	ZENER DIODE
D4	RD10ES-T1B1	ZENER DIODE
D5	RD10ES-T1B1	ZENER DIODE
D6	RD10ES-T1B1	ZENER DIODE
TP1	PGZ00761	TERMINAL, ×2
CN1	PU58844-106	CONNECTOR

DECK TERNINAL BOARD ASSEMBLY <91>

PWBA	PRK20096B-03	DECK TERMINAL BOARD ASSY

- DECK TERMINAL 1 BOARD ASSY <91> -

Q2	DTC144ES	TRANSISTOR	
R3	QRD161J-103	RESISTOR	10kΩ,1／6W

#⚠REF No.	PART No.	PART NAME, DESCRIPTION
CL1	PGZ01377-03	STYLE PIN
CN1	PU58844-11	CONNECTOR
CN2	PU58844-12	CONNECTOR
CN4	PU59555-2	CONNECTOR
CN6	PU58844-2R	CONNECTOR
CN7	PU58844-3	CONNECTOR
CN8	PU58844-2Y	CONNECTOR
CN10	PU58844-8	CONNECTOR
CN11	PU58844-108R	CONNECTOR

- DECK TERMINAL 2 BOARD ASSY <92> -

IC101	TL431CLP	I.C.(M)	
IC102	NJM2068S-D	I.C.(M)	
IC103	NJM2068S-D	I.C.(M)	
IC104	NJM2068S-D	I.C.(M)	
D101	11ES2	DIODE	
D102	11ES2	DIODE	
R101	QRV141F-2200AY	CMF RESISTOR	220Ω,1／4W
R102	QRV141F-3302AY	CMF RESISTOR	33.0kΩ,1／4W
R103	QRV141F-1002AY	CMF RESISTOR	10.0kΩ,1／4W
R104	QRV141F-3000AY	CMF RESISTOR	300Ω,1／4W
R105	QRV141F-2000AY	CMF RESISTOR	200Ω,1／4W
R106	QRV141F-3602AY	CMF RESISTOR	36.0kΩ,1／4W
R107	QRD161J-0R0	RESISTOR	0Ω,1／6W
R108	QRV141F-1002AY	CMF RESISTOR	10.0kΩ,1／4W
R109	QRV141F-1002AY	CMF RESISTOR	10.0kΩ,1／4W
R110	QRV141F-1501AY	CMF RESISTOR	1.50kΩ,1／4W
R111	QRV141F-1002AY	CMF RESISTOR	10.0kΩ,1／4W
R112	QRV141F-1002AY	CMF RESISTOR	10.0kΩ,1／4W
R113	QRV141F-1002AY	CMF RESISTOR	10.0kΩ,1／4W
R114	QRV141F-1002AY	CMF RESISTOR	10.0kΩ,1／4W
R115	QRD161J-103	RESISTOR	10kΩ,1／6W
R116	QRD161J-272	RESISTOR	2.7kΩ,1／6W
R117	QRD161J-103	RESISTOR	10kΩ,1／6W
R118	QRD161J-273	RESISTOR	27kΩ,1／6W
C101	QCZ0208-104	CAPACITOR	0.1μF
C102	QER41EM-106	E CAPACITOR	10μF,25V
C103	QER41EM-106	E CAPACITOR	10μF,25V
C104	QCZ0208-104	CAPACITOR	0.1μF
C105	QCZ0208-104	CAPACITOR	0.1μF
C106	QCZ0208-104	CAPACITOR	0.1μF
C107	QCZ0208-104	CAPACITOR	0.1μF
C108	QCZ0208-104	CAPACITOR	0.1μF
C109	QCZ0208-104	CAPACITOR	0.1μF
C110	QCZ0208-104	CAPACITOR	0.1μF
S1	PU61319	REC SAFETY SWITCH	

⚠REF No.	PART No.	PART NAME, DESCRIPTION
S2	PU61321-1-1	TAPE SENSOR
S3	YU40177-2	PUSH SWITCH
CN102	PU58844-9	CONNECTOR
CN103	PU58844-3R	CONNECTOR
CN104	PU58844-3	CONNECTOR

CASSETTE HOUSING BOARD ASSY <93>

PWBA	PRK30068A-01	HOUSING BOARD ASSY
Q1	PN268VI	PHOTO TRANSISTOR
S1	PU60629	CASSETTE SENSOR
S2	YU40177-2	PUSH SWITCH
S3	YU40177-2	PUSH SWITCH
CN1	PU58844-108	CONNECTOR

— MEMO —